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REMARKS/ARGUMENTS

Claims 1-20 are pending in the present application. Claims 1, 2, 13, and 14 are amended. Support for the amendments to the claims can be found in the claims as originally filed and in the specification on p. 4, ll. 3-8; p. 6, ll. 26-29; p. 9, ll. 18-24; Figure 2; and Figure 7. No new matter is added. Reconsideration of the claims is respectfully requested.

**I. 35 U.S.C. § 103, Asserted Obviousness****I.A. Claims 1, 3, 5, 13, 15, and 17****I.A.1. *Response to Rejection***

The examiner rejected claims 1, 3, 5, 13, 15, and 17 as unpatentable over Applicant's Admit prior Art (hereinafter *AAPA*) in view of *Wood et al. System for Selectively Controlling Spin-Up Control for Data Storage Devices in an Array Using Predetermined Out of Band (OOB) Signals*, U.S. Patent 6,915,363 (July 5, 2005) (hereinafter "*Wood*"). This rejection is respectfully traversed. Regarding claim 1, which is representative of this claim set, the examiner states that:

As per claims 1 and 13, *AAPA* teach a storage network system and method, comprising:

a storage system (disk subsystem) (Specification, page 2, ll. 9-10);

a storage controller (disk/RAID controller), wherein the storage controller provides access to the storage system (storage system comprising of two or more hard disks) (Specification, page 2, ll. 10-12) and wherein the storage controller has a serial port (Specification, page 2, ll. 14-15); and

an external device, electrically coupled to the storage controller through the serial port (Specification, page 2, ll. 14-15),

wherein the storage controller have a plurality of serial port parameter settings including baud rate, data bits, stop bits, priority and flow control (Specification, page 2, ll. 17-18).

*AAPA* does not teach the storage network system and method, comprising wherein the storage controller receives at least one serial port parameter value for a set of serial port parameters, wherein the at least one serial port parameter is selectable by an operator; and initializes the serial port on the storage controller using the received serial port parameter values.

*Wood* teaches a system and a method comprising a subsystem controller (Fig. 3, ref. 314) providing access to a storage system comprising a plurality of disk drives (Fig. 3, ref. 330, 338, 342, 346, 350, 354) over a serial connection (conforming to the serial ATA standard), wherein a host computer (Fig. 3, ref.

302) selects and sends a start command and when the subsystem controller receives the start command, the port controller (Fig. 3, ref. 324, 326) is activated utilizing the start command (col. 6, ll. 35-59 and col. 9, ll. 14-35).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Wood's start command into AAPA's plurality of serial port parameter settings. The resulting combination of the references teaches the storage network system and method further comprising wherein the plurality of serial port parameter settings including start command, baud rate, data bits, stop bits, priority and flow control; the host (operator) selecting and sending the start command; and the subsystem controller receives and utilizes the start command to activate (initialize) the port controller, wherein the port controller operates in accordance to the serial ATA standard, therefore the port controller is a serial port controller.

Therefore, it would have been obvious to combine Wood with AAPA for the benefit of proper communication between the host and the peripheral utilizing out-of-band (OOB) signaling, and furthermore, providing greater control in initializing the inexpensive array of ATA disk drives (Wood, Abstract and col. 2, ll. 51-59).

Final Office Action dated December 6, 2006, pp. 17-20 (emphasis in original).

Claim 1 as amended is as follows:

1. (Currently Amended) A method for serial port initialization in a storage controller, wherein the storage controller includes a serial port for connection to an external device, the method comprising:
  - receiving at least one serial port parameter value for a set of serial port parameters, wherein the at least one serial port parameter is selected by a user and
  - initializing a serial port on the storage controller using the received serial port parameter values.

**I.A.1.I. *The Proposed Combination Does Not Teach All of the Features of Claim 1***

The Examiner bears the burden of establishing a *prima facie* case of obviousness based on prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). For an invention to be *prima facie* obvious, the prior art must teach or suggest all claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In the case at hand, the cited references when considered as a whole do not teach or suggest all of the limitations of the claims, arranged as they are in the claims.

Regarding claim 1, the proposed combination of *AAPA* and *Wood*, when considered as a whole, does not teach or suggest "initializing a serial port," as claimed. The examiner's assertions to the contrary are mistaken.

Additionally, the proposed combination, when considered as a whole, does not teach or suggest "initializing a serial port," as claimed. As shown further below, *Wood* teaches serial ATA connections for hard disk drives, which is an entirely distinct connection type from serial port connections. Nevertheless, the examiner believes that activating the port controller 326 in *Wood* is equivalent to initializing a serial port, as claimed. *Wood* describes port controller 326 as follows:

As shown in FIG. 3, the disc drive array 310 preferably includes two or more port controllers 316, shown as port controller (1) 324 through port controller (m) 326, each of which is operably connected 322 to the subsystem controller 314. The subsystem controller 314 may communicate with the port controllers 316 via the connections 322 using any number of interfaces, such as, without limitation: Serial ATA, ATA/IDE, SCSI, USB, IEEE-1394 (Firewire), Fiber Channel, etc.

*Wood*, col. 5, l. 66 through col. 6, l. 10.

As shown further below, a serial ATA connection is not a serial port. None of the interfaces that *Wood* describes are serial ports.

The examiner relies on *AAPA* to describe serial ports. The examiner relies on *Wood* to initialize the claimed serial port in the claimed manner. However, as shown above, *Wood* provides no disclosure that actually would allow one to initialize the claimed serial port. Therefore, when the references are considered as a whole the combination of *Wood* and *AAP* does not disclose initializing a serial port, as recited in claim 1. Accordingly, the proposed combination of *Wood* and *AAP* when considered as a whole does not teach or suggest all of the features of claim 1. For this reason, the examiner has failed to state a *prima facie* obviousness rejection against claim 1.

#### **I.A.1.II. Both *Wood* and *AAPA* Teach Away from Claim 1**

A reference may be said to "teach away" from the claimed invention when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. *In re Gurley*, 27 F.3d 551, 553, 31 U.S.P.Q.2D 1130, 1131 (Fed. Cir. 1995). If a reference teaches away from the claimed invention, then no teaching, suggestion, or motivation exists to combine the references. In this case, *Wood* and *AAPA* both teach away from claim 1.

The examiner relies on *AAPA* as teaching the claimed feature of, "wherein the at least one serial port parameter is selected by a user." The examiner cites the following portion of *AAPA* as teaching this claimed feature:

RAID controller typically include a serial port for communication with an external device, such as a laptop computer or other maintenance device. *An operator may connect an external device to the serial port of a RAID controller for maintenance, monitoring, or configuration.* Both the controller and the external device have serial port parameter settings, such as, for example, baud rate, data bits, stop bits, parity, and flow control. The parameter settings must be synchronized for communication between the device and the controller to be effective. The controller typically only supports setting the baud rate of the serial port and no other parameter settings.

Applicant's specification, p. 2, ll. 14-21 (emphasis supplied).

However, the examiner wholly ignores the following two paragraphs of Applicant's specification.

Those two paragraphs are as follows:

However, several problems exist for controllers with serial port communication. There are currently no default serial port parameters set for a controller's serial port during boot code initialization. When the controller downloads non-volatile static random access memory (NVS RAM) code, the controller may not be responsive for serial port communication. Also, the controller may not be responsive for serial port communication after swapping one of the controllers with a foreign controller and auto-code synchronization (ACS) has been completed.

Serial port initialization on RAID controllers poses many problems as port parameters are typically set by invoking a <BREAK> key sequence on the serial console. By repeating the break sequence, a user may cycle through baud rate values for the serial port. However, the user may not know how many times the break sequence was invoked and, thus, may not know what baud rate is set. The user may also miss the intended value and must restart the break key sequence. This solution for setting serial port parameters is non-intuitive and potentially frustrating.

Applicant's specification, p. 2, l.22 through p. 5, l. 5.

These paragraphs describe one of the problems associated with the user setting the serial port parameter. One example provided above states that the user does not know how many time a break sequence was involved in setting the serial port parameter and that the solution for setting serial port parameters is *non-intuitive and potentially frustrating*.

In ignoring these facts the examiner also ignores the fact that one of ordinary skill would *avoid* having the user set the at least one serial port parameter in order to avoid the stated problem. Thus, the examiner's reliance on *AAPA* as teaching the claimed feature of, "wherein the at least one serial port parameter is selected by a user" is entirely misplaced. Instead, *AAPA* specifically teaches against the claimed invention. For this reason, *AAPA* teaches away from claim 1. Accordingly, the examiner has not established a proper teaching, suggestion, or motivation to combine the references and the examiner has not established a *prima facie* obviousness rejection against claim 1.

Additionally, *Wood* also directly teaches away from the invention of claim 1. As shown below, *Wood* teaches serial ATA connections for hard disk drives but provides no teachings regarding connecting serial ports to hard disk drives. In view of the fact that serial port connections are slower than serial ATA connections, one of ordinary skill in the art would be motivated to *avoid* combining the references because combining the references would undesirably result in slowing the connection speed. Therefore, again, no teaching, suggestion, or motivation exists to combine the references. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 1.

Moreover, when considered together as a whole, any proposed combination of *Wood* and *AAPA* teaches away from claim 1. When combined, *AAPA* and *Wood* would result in a connection speed that is slower than that provided by *Wood* and would also result in a non-intuitive and frustrating method of setting at least one parameter for a port. One of ordinary skill would be strongly motivated to avoid this result. Thus, the references, considered as a whole, teach away from the invention of claim 1. Accordingly, the examiner has failed to state a proper teaching, suggestion, or motivation to combine the references or a *prima facie* obviousness rejection.

Still more telling, *Wood* and *AAPA* cannot be technically combined because the serial ports in *AAPA* and the ATA ports in *Wood* are radically different from each other. For this reason, a person of ordinary skill, upon reading *Wood*, would be discouraged from following the path set out in *Wood* when considering *AAPA*. Under the standards of *In re Gurley*, the proposed combination of *Wood* and *AAPA* also specifically teaches against the claimed invention. Accordingly, the examiner has failed to state a proper teaching, suggestion, or motivation to combine the references or a *prima facie* obviousness rejection.

**I.A.1.iii. No Proper Teaching, Suggestion, or Motivation Exists to Combine the References to Achieve the Invention of Claim 1**

In addition, the examiner has failed to state a *prima facie* obviousness rejection because no teaching, suggestion, or motivation exists to combine the references. No teaching, suggestion, or motivation exists to combine the references because, among other reasons, one of ordinary skill could not technically implement the proposed combination.

The examiner appears to believe that one of ordinary skill could combine the feature of a serial port, as taught in *AAPA*, with an ATA serial connection for a hard disk drive, as taught in *Wood*. The examiner further appears to believe that one of ordinary skill would find combining these features to achieve the claimed invention obvious because the resulting combination would result in the purported benefit.

However, the examiner appears to ignore the stark technical difference between serial ports and ATA serial connections. Applicants invite the examiner to review the following websites [computer.howstuffworks.com/serial-port1.htm](http://computer.howstuffworks.com/serial-port1.htm) and [en.wikipedia.org/wiki/Serial\\_ATA](http://en.wikipedia.org/wiki/Serial_ATA) for further information on these types of devices.

Serial ports, also called communication (COM) ports, are bi-directional communication ports. Bi-directional communication allows each device to receive data as well as transmit it. Serial ports use different pins to receive and transmit data. The name "serial" is derived from the fact that a serial port "serializes" data. Data is serialized when data is transmitted one byte at a time. The advantage to serial communications is that a serial port needs only one wire to transmit the bits. The disadvantage to serial communications with a serial port is that eight times more time is needed to transmit the data than if eight wires were present. Serial ports lower cable costs and make cables smaller. Serial ports rely on a special controller chip, the Universal Asynchronous Receiver/Transmitter (UART), to function properly.

In contrast, a serial ATA connection is an entirely different type of connection. In computer hardware, Serial ATA (SATA) is a computer bus technology primarily designed for transfer of data to and from a hard disk. Physically, SATA power and data cables are radically different than cables that connect serial ports. The SATA standard defines a data cable using seven conductors and 8 mm wide wafer connectors on each end. Additionally, SATA connectors are keyed such that one can not install cable connectors upside down without considerable force. The backward compatibility of SATA hard disks is virtually non-existent in the sense that SATA drives will not work with the same connectors to which PATA, SCSI, or any other format of hard drive connectors connect.

Thus, the only similarity between the claimed "serial port" and the "serial ATA connection" shown in *Wood* is that both use a serial-type of communication. Otherwise, the two devices are radically different. *Wood* provides no indication that *Wood's* method can be implemented using a serial port. In fact, because the claimed serial port and the serial ATA connections disclosed in *Wood* are so radically different, one of ordinary skill could not combine *AAPA* with *Wood* to achieve the invention of claim 1. Therefore, no teaching, suggestion, or motivation exists to combine the references to achieve the invention of claim 1. Accordingly, the examiner failed to state a *prima facie* obviousness rejection against claim 1.

**I.A.1.iv. No Teaching, Suggestion, or Motivation Exists Because the References Address Different Problems**

One of ordinary skill would not combine the references to achieve the invention of claim 1 because the references are directed towards different subject matter. It is necessary to consider the reality of the circumstances--in other words, common sense--in deciding in which fields a person of ordinary

skill would reasonably be expected to look for a solution to the problem facing the inventor. *In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992); *In re Wood*, 599 F.2d 1032, 1036, 202 U.S.P.Q. 171, 174 (CCPA 1979). In the case at hand, the cited references address different subject matter. Thus, no common sense reason exists to establish that one of ordinary skill would reasonably be expected to look to *Wood* for a solution to the problem described in *AAPA*. Accordingly, no teaching, suggestion, or motivation exists to combine the references and the examiner has failed to state a *prima facie* obviousness rejection of claim 1.

For example, *AAPA* is directed to serial port initialization. For example, the specification provides that:

Serial port initialization on RAID controllers poses many problems as port parameters are typically set by invoking a <BREAK> key sequence on the serial console. By repeating the break sequence, a user may cycle through baud rate values for the serial port. However, the user may not know how many times the break sequence was invoked and, thus, may not know what baud rate is set. The user may also miss the intended value and must restart the break key sequence. This solution for setting serial port parameters is non-intuitive and potentially frustrating.

Specification, p. 2, l. 28 through p. 3, l. 5.

On the other hand, *Wood* is directed to the problem of speeding up spin-up of disk drives. For example, *Wood* provides as follows:

In contrast to SCSI disc drives, spin-up in typical parallel-ATA disc drives and typical serial-ATA disc drives is not controlled by commands received from a host computer or array controller. In typical parallel-ATA disc drives a scheme may be employed wherein when two parallel-ATA disc drives are used on the same ATA channel as master and slave, the spin-up of the slave drive is delayed by several seconds from the spin-up time of the master drive. Unfortunately, as a typical parallel-ATA channel may only accommodate a single pair of master/slave devices, the spin-up of only one disc drive per parallel-ATA channel may be delayed in this manner. Present serial-ATA disc drives do not include any mechanisms for staggering or sequencing the spin-up of a plurality of disc drives. In particular, there is currently no master-slave relationship in the point-to-point topology of serial-ATA interfaces.

SCSI disc drives have typically been preferred over ATA disc drives in arrays having a large number of disc drives. Part of the reason for this preference relates to the better spin-up time control that they provide. Unfortunately, SCSI disc drives are typically much more expensive than ATA disc drives. As such, there is a need for systems and/or methods that provided a greater control of spin-up times of ATA disc drives, so that inexpensive arrays of ATA disc drives may be more effectively used in multi-drive arrays.

*Wood*, col. 2, ll. 35-59.

Based on the plain disclosures of the references themselves, the references address completely distinct subject matter. Serial port initialization is completely distinct from the problem of speeding up spin-up of disk drives.

Because the references address completely distinct subject matter, one of ordinary skill would have no reason to combine or otherwise modify the references to achieve the invention of claim 1. Thus, no proper teaching, suggestion, or motivation exists to combine the references in the manner suggested by the examiner. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 1 or any other claim in this grouping of claims.

**I.A.1.v. *The Examiner Has Not Stated a Proper Teaching, Suggestion or Motivation to Combine the References***

In addition, the examiner has failed to state a *prima facie* obviousness rejection against claim 1 because the examiner has not stated a proper teaching, suggestion, or motivation to combine the references. Instead, the examiner has only stated a proposed advantage to combining the references. However, an advantage is not necessarily a teaching, suggestion, or motivation.

To constitute a proper teaching, suggestion, or motivation, the examiner must establish that one of ordinary skill would both recognize the advantage and have a reason to implement the advantage. For example, a first reference may disclose the use of lasers to achieve nuclear fusion. A second reference may disclose that ultra-high power lasers deliver more energy. One of ordinary skill may recognize that an ultra-high power laser would be more useful to achieve nuclear fusion. However, one of ordinary skill would be motivated to avoid combining the references because of the extreme expense of ultra-high power lasers. In this example, one of ordinary skill is motivated to avoid implementing the combination, even if he or she recognized the advantage. Therefore, in this example, so no teaching, suggestion, or motivation exists to combine the references.

In the case at hand, the examiner has not provided a sufficient reason why one of ordinary skill would recognize the proposed advantage or have a reason to implement it. The examiner states that "it would have been obvious to combine *Wood* with *AAAA* for the benefit of proper communication between the host and the peripheral utilizing out-of-Band (OOB) signaling, and furthermore, providing greater control in initializing the inexpensive array of ATA disk drives." Office Action of June 21, 2006, p. 5 (emphasis in original). However, the proposed teaching, suggestion, or motivation does not actually exist because, as shown above, one of ordinary skill could not technically combine the references. Even if one of ordinary skill could technically combine the references, *Wood* still teaches away from the claimed invention. Thus, the examiner's proposed teaching, suggestion, or motivation is false. For these reasons, the examiner's statement fails to provide a proper teaching, suggestion, or motivation to combine the references. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 1.



**I.A.1.vi. *The Examiner Used Impermissible Hindsight When Fashioning the Rejection***

In addition, the examiner's has failed to state a *prima facie* obviousness rejection against claim 1 because the examiner used impermissible hindsight when fashioning the rejection. Personal opinion cannot be substituted for what the prior art teaches because a *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993).

In this case, the references address starkly different subject matter, as shown above. Additionally, the references do not teach what the examiner asserts the references to teach. In further light that the references could not have been combined by one of ordinary skill to achieve the invention of claim 1, the examiner could only have fashioned the rejections by using the examiner's personal opinion rather than by using the actual teachings of known prior art. Therefore, the examiner must have used impermissible hindsight when fashioning the rejection of claim 1.

Moreover, based on the plain disclosures in the references, the only suggestion to combine the references is found in Applicants' specification. The examiner's citation to *Wood* is clearly inappropriate given that the citation only refers to SATA connections and not to serial ports. Hence, the examiner must have used Applicants' specification to find a teaching, suggestion, or motivation to combine the references. Combining the references in this manner constitutes impermissible hindsight and fails to comport with the standards of *Graham v. John Deere Co.*, 383 U.S. 1 (1966), which requires a proper teaching, suggestion, or motivation to combine or modify references to achieve a proper obviousness rejection. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 1.

**I.A.1.vii. *The Examiner has Failed to State a Prima facie Obviousness Rejection Because Wood is Non-Analogous Art***

The examiner has failed to state a *prima facie* obviousness rejection because *Wood* is non-analogous art. In order to rely on a *Wood* as a basis for rejection, wood must be either in the applicant's field of endeavor or, if not, then reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d 1443, 1445 (Fed. Cir. 1992); *In re Deminski*, 796 F.2d 436, 442, 230 U.S.P.Q. 313, 315 (Fed. Cir. 1986).

In the case at hand *Wood* is not in the same field of endeavor of claim 1 and *Wood* is not reasonably pertinent to the particular problem with which Applicants were concerned. With regard to the first part of the test for analogous art, *Wood* is not in the same field of endeavor of claim 1 because *Wood* is in the field of increasing the speed of hard disk drives. In contrast, claim 1 is in the field of serial port

initialization. The two fields are wholly distinct from each other because serial port initialization is wholly distinct from the speed of hard disk drives. Thus, *Wood* fails the first test of *In re Oetiker*.

With regard to the second part of the test for analogous art, *Wood* is not reasonably pertinent to the particular problem with which Applicants were concerned. As established above, *Wood* is in the field of speeding up hard disk drives.

In contrast, claim 1 is directed to serial port initialization. The problem addressed by *Wood* is wholly distinct from the problem addressed by claim 1. For this reason, *Wood* is not reasonably pertinent to the particular problem with which Applicants were concerned. Therefore, *Wood* fails the second part of the *In re Oetiker* test for analogous art.

As established above, *Wood* fails both tests for analogous art set forth by *In re Oetiker*. Therefore, *Wood* is non-analogous art. For this reason, the examiner can not use *Wood* when fashioning an obviousness rejection against claims 1. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 1.

#### **I.A.2. Rebuttal to the Examiner's Response**

##### **I.A.2.1. The Proposed Combination Does Not Teach an "Operator"**

In response to the fact that the proposed combination, as originally stated, did not teach an "operator," as in the original claims, the examiner states that:

In responding to applicant's argument regarding independent claim 1 rejected under 35 U.S.C. 103(a) is not taught by the proposed combination of AAPA and Wood because the combined teachings does not teach or suggest the claimed feature "the at least serial port parameter is selectable by an operator", wherein Wood does not teach the claimed "operator," but rather, Wood teaches a host computer (Wood, Fig. 3, ref. 302); more specifically, "a host computer" is not equal to the claimed "operator," as stated on page 9, 2nd paragraph to page 10, 3rd paragraph. Applicant's argument have fully been considered, but are not found to be persuasive.

Please note that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Furthermore, as stated in the applicant's remark and in AAPA, the claimed "operator" is actually taught by AAPA; more specifically, "An operator may connect an external device to the serial port of a RAID controller for maintenance, monitoring, or configuration." (AAPA, Specification, p. 2, ll. 15-

17 and Remarks, p. 10, 11. 2-3); wherein the external device could be a computer (e.g. laptop computer) (MPA, Specification, p. 2, 11. 15). Therefore, AAPA's "operator" may then utilize Wood's host computer to connect to the serial port of the RAID controller.

More specific details in regarding to the rejection of the claimed "receiving at least one serial port parameter value for a set of serial port parameters, wherein the at least one serial port parameter is selectable by an operator," is clarified as following.

AAPA teaches a storage network system and method comprising:

a set of serial port parameters values (e.g. baud rate, data bits, priority and flow control (Specification, p. 2, 11. 17-18); and

an operator connecting an external device to a serial port of a RAID controller, wherein the external device may be a laptop computer (Specification, p. 2, 11. 15-17).

Wood teaches a system and a method comprising:

a host computer (Fig. 3, ref. 305) is connected to a subsystem (e.g. RAID system) controller (Fig. 3, ref. 314) utilizing a serial connection (e.g. Serial ATA standard) (Fig. 3, ref. 312) (col. 6, 11. 14-26); and

the host computer may provide the common control and manage functions of the RAID (Fig. 3, ref. 330, 338, 342, 346, 350, 354) by selectively sending a command parameter (e.g. start command) to the subsystem controller through the port controllers (Fig. 3, ref. 316: to initialize and activate the RAID (col. 6, 11. 35-59).

By combining Wood with AAPA, the resulting combination teaches the operator (i.e. taught by AAPA) utilizing the host computer (i.e. taught by Wood) to connect to the serial port of the RAID controller, as the host computer may send serial port parameter value to the RAID controller for the purpose of initialization, such that the operator would then utilized the host computer to select at least one serial port parameters value among the set of serial port parameters values to be transferred.

Final Office Action dated December 6, 2006, pp. 2-4 (emphasis in original).

The examiner's response to the previous office action response is to point out that AAPA teaches the claimed feature of the "operator," now a "user" in amended claim 1. However, the examiner's response demonstrates that the examiner continues to view the teachings of the references as individual components instead of considering the references as a whole – despite the examiner's notation to the contrary.

In the original rejection of claim 1, the examiner stated that *Wood* taught this claimed feature. The examiner now asserts that *AAPA* teaches this claimed feature. In doing so the examiner wholly ignores the rest of the teachings of *AAPA*.

As described above, *AAPA* also provides that having a user set the at least one parameter results in a process that is both non-intuitive and potentially frustrating. *Wood* is devoid of disclosure regarding setting a parameter of a serial port. Thus, one of ordinary skill would consider the teachings of *AAPA* when considering *AAPA* and *Wood* as a whole. The examiner only *partially* considers *AAPA* and for this reason the examiner comes to an erroneous conclusion.

However, one of ordinary skill would consider *all* of the teachings of the references because the combination, *considered as a whole*, is at issue. Thus, assuming, *arguendo*, that the examiner's characterization of the proposed combination is correct, one of ordinary skill would conclude that the combination of *Wood* and *AAPA* *would result in a non-intuitive and frustrating method*. One of ordinary skill would be strongly motivated to avoid this result. Accordingly, the proposed combination, considered as a whole, teaches away from claim 1. Therefore, under the standards of *In re Gurley*, the examiner failed to state a *prima facie* obviousness rejection against claim 1.

**I.A.2.ii. The Proposed Combination Does Not Teach "Initializing a Serial Port"**

In response to the fact that the proposed combination does not teach "initializing a serial port," the examiner states that:

In responding to applicant's argument regarding independent claim 1 rejected under 35 U.S.C. 103(a) is not taught by the proposed combination of *AAPA* and *Wood* because the proposed combination does not teach or suggest "initializing a serial port," as *Wood* teaches serial ATA (SATA) connection for hard drives, wherein the SATA connection is an entirely distinct connection type from serial port connection, and that the activation of the port controller in *Wood* is not equivalent to initializing a serial port, as stated on page 10, 4th paragraph to page 11, 1st paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

The examiner is relying on *wood*'s general teaching regarding that the host computer coupling to the peripheral through the peripheral's controller, wherein the host computer sends a command to the peripheral for the purpose of initialization. The examiner is not expressly relying on the teaching that the interconnection must be a SATA connection; furthermore, *Wood* also stated that the utilization of the SATA connection is not a requirement, but rather one of the pluralities of embodiments (*Wood*, col. 6, 11. 11-17), wherein *Wood* teaches that the interconnection can be any number of appropriate interfaces, such as, without limitation: Serial ATA, ATA/IDE, SCSI, USB, IEEE-1394 (Firewire), Fiber Channel, iSCSI, etc. Therefore, in combining *Wood* with *AAPA*, it would be

obvious to implement the host computer sending a serial port parameter value to initialize the serial port; and Wood does not appear to disclose that the utilization of the serial port connection would result in technological failure in implementing Wood's invention.

Final Office Action dated December 6, 2006, pp. 4-6 (emphasis in original).

The examiner's response belies the examiner's complete misunderstanding of the law of obviousness and of the claimed invention in relation to Wood. Applicants address each of these facts in turn.

First, the examiner misunderstands the law of obviousness. The examiner states that:

The examiner is relying on wood's general teaching regarding that the host computer coupling to the peripheral through the peripheral's controller, wherein the host computer sends a command to the peripheral for the purpose of initialization. The examiner is not expressly relying on the teaching that the interconnection must be a SATA connection;...

Final Office Action dated December 6, 2006, p. 5 (emphasis in original).

The examiner is not entitled to rely on a references "general teaching." For an invention to be *prima facie* obvious, the prior art must teach or suggest all claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (emphasis added). In the case at hand, AAPA does not teach or suggest this claimed feature, and the examiner does not assert otherwise. Wood also does not teach or suggest the claimed feature of, "initializing a serial port on the storage controller using the received serial port parameter values." The examiner effectively admits that Wood does not teach this claimed feature. Further, as shown above and as shown below again, Wood is devoid of disclosure regarding serial port connections. Thus, Wood does not suggest this feature. Additionally, the "general teachings" of Wood are radically different than this claimed feature. Accordingly, the proposed combination when considered as a whole does not teach or suggest the claimed feature of, "initializing a serial port on the storage controller using the received serial port parameter values." Therefore, under the standards of *In re Royka*, the invention of claim 1 is not *prima facie* obvious. For this reason, the examiner has failed to state a *prima facie* obviousness rejection against claim 1.

Second, the examiner misunderstands the claimed invention in relation to Wood. The examiner states that:

furthermore, Wood also stated that the utilization of the SATA connection is not a requirement, but rather one of the pluralities of embodiments (Wood, col. 6, 11, 11-17), wherein Wood teaches that the interconnection can be any number of appropriate interfaces, such as, without limitation: Serial ATA, ATA/IDE, SCSI, USB, IEEE-1394 (Firewire), Fiber Channel, iSCSI, etc.

Final Office Action dated December 6, 2006, p. 5 (emphasis in original).

The examiner appears to rely on *Wood's* teachings regarding different embodiments. However *not one* of the listed alternative embodiments is a serial port, as claimed. Applicants believe that the examiner mistakenly read "serial ATA" as being a serial port. However, as pointed out in the previous response to office action, a "serial ATA" connection is *not* a serial port. The examiner ignored this fact in this portion of the response to office action, so Applicants will again describe why this fact is true.

A serial ATA connection is an entirely different type of connection than a serial port. In computer hardware, Serial ATA (SATA) is a computer bus technology primarily designed for transfer of data to and from a hard disk. Physically, SATA power and data cables are radically different than cables that connect serial ports. The SATA standard defines a data cable using seven conductors and 8 mm wide wafer connectors on each end. Additionally, SATA connectors are keyed such that one can not install cable connectors upside down without considerable force. The backward compatibility of SATA hard disks is virtually non-existent in the sense that SATA drives will not work with the same connectors to which PATA, SCSI, or any other format of hard drive connectors connect.

Thus, the only similarity between the claimed "serial port" and the "serial ATA connection" shown in *Wood* is that both use a serial-type of communication. Otherwise, the two devices are radically different. *Wood* provides no indication that *Wood's* method can be implemented using a serial port. In fact, because the claimed serial port and the serial ATA connections disclosed in *Wood* are so radically different, one of ordinary skill could not combine *AAPA* with *Wood* to achieve the invention of claim 1. Therefore, no teaching, suggestion, or motivation exists to combine the references to achieve the invention of claim 1. Accordingly, the examiner failed to state a *prima facie* obviousness rejection against claim 1.

In addition to using the wrong legal standard and misunderstanding the references, the examiner also uses faulty logic when combining the references. The examiner states that:

*Wood* does not appear to disclose that the utilization of the serial port connection would result in technological failure in implementing *Wood's* invention.

Final Office Action dated December 6, 2006, p. 6 (emphasis in original).

The fact that *Wood* does not disclose that utilization of the serial port connection is *logically irrelevant* to the question of whether a technological failure would occur in implementing *Wood's* invention. *Wood* also fails to describe that using a hemp rope to connect the peripheral with the computer would result in technological failure in implementing *Wood's* invention. However, one of ordinary skill knows beyond any shadow of a doubt that connecting a peripheral with a computer would result in a technological failure in implementing *Wood's* invention.

Similarly, one of ordinary skill knows beyond any shadow of a doubt that connecting a hard drive to a computer using a serial port would result in technological failure in implementing *Wood*'s invention. At a bare minimum, the resulting connection would be mind-numbingly slow and would be a technological failure for that reason alone. However, *Wood* does not teach or suggest this feature, so any combination of *Wood* and *AAPA* will fail to achieve the claimed combination.

In ignoring the knowledge possessed by one of ordinary skill the examiner has failed to recognize that, at a basic level, *Wood* and *AAPA* cannot be combined to result in the claimed invention. Certainly, *Wood* does not teach or suggest any features that are the same or equivalent to, "initializing a serial port on the storage controller using the received serial port parameter values." *AAPA* does not teach or suggest this claimed feature. Therefore, under the standards of *In re Royka*, the examiner failed to state a *prima facie* obviousness rejection against claim 1.

**LA.2.iii. One of Ordinary Skill Would Not Combine the References Because the References Use Different Technologies**

In response to the fact that that one of ordinary skill would not combine the references because the references use different technologies the examiner states that:

In responding to applicant's argument regarding independent claim 1 rejected under 35 U.S.C 103(a) that one of ordinary skilled could not combine *Wood* with *AAPA* because *Wood* utilized SATA connection and *AAPA* utilized serial port connection, there the two types of connection are radically different; and furthermore, *Wood* does not provide *Wood*'s method can be implemented using a serial port, as stated on page 11, 2nd paragraph to page 12, 2nd paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

As discussed above, the examiner is not expressly relying on *Wood*'s teaching of utilizing SATA connection, and it appears nowhere in *Wood*'s teaching that precludes the implements of *Wood*'s teaching in serial port connection. Furthermore, *Wood* teaches that the implementation of the interconnection can be a number of appropriate interfaces, including serial type interconnections (*Wood*, col. 6, 11: 11-17).

Final Office Action dated December 6, 2006, pp. 5-6 (emphasis in original).

Again, the examiner's assertions are manifestly incorrect. As shown above, the examiner may not rely on *Wood*'s general teachings. As shown above, *Wood* deals with connection types that are radically different than the claimed connection type. As shown above, the fact that *Wood* does not

preclude the proposed combination is logically irrelevant to the obviousness inquiry. As shown above, none of the implementation of different interfaces describes a serial port connection. Thus, none of the examiner's statements can rebut the fact that no one of ordinary skill would combine the references because the references address different problems.

Additionally, the examiner's assertions do not address the argument set forth by Applicants. Applicant's argument is as follows: Applicants have shown that the references address radically different problems and technologies. Because of this fact, one of ordinary skill would have no reason to turn to *Wood* when considering the problems associated with *AAPA*. Therefore, no teaching, suggestion, or motivation exists to combine the references to achieve the invention of claim 1. Accordingly, under the standards of *In re Lowry*, the examiner has failed to state a *prima facie* obviousness rejection against claim 1.

In response the examiner argues that 1) *Wood* does not preclude the proposed combination and 2) that *Wood* teaches a number of interfaces can be used with *Wood*'s technique – including “serial type” interfaces. However, the examiner ignores the fact that the references still deal with different problems. Thus, the examiner fails to address Applicant's argument.

Additionally, the examiner's assertion that *Wood* teaches “serial type” connection fails to comport with the fact that a serial *port* and a serial *ATA* connection are radically different. The examiner's apparent assertion that these connections are similar simply because they both use the word “serial” is simply wrong.

Therefore, the examiner's assertion that *Wood* can be combined with *AAPA* is also simply wrong. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 1.

#### **I.A.2.iv. *Wood* Teaches Away from the Claimed Invention**

In response to the fact that that *wood* teaches away from the claimed invention the examiner states that:

In responding to applicant's argument regarding independent claim 1 rejected under 35 U.S.C. 103(a) that *Wood* teaches away from the claimed invention because *Wood* teaches SATA connections for hard disk drives but provides no teaching regarding connecting serial ports to hard disk drives; furthermore, since SATA connection operates at a faster speed than serial port connection, one of ordinary skill in the art would be motivated to avoid the combination of references, as stated on page 12, 3rd paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

As *Wood*'s teaching does not preclude the implementing of the interconnection utilizing serial port connection, such that if one were to implement *Wood*'s invention utilizing the serial port connection, the resulting implementation would not be successful; therefore, *Wood* does not teach away from the claimed



invention. Furthermore, since SATA connection operates at faster speed than serial port connection, one would be motivated to combine the references, as data/command can be transferred much quicker. It is unclear as to why one of ordinary skill in the art would desire to transfer parameters/data/command slower, if a faster interconnection can be successfully implemented for transferring parameters/data/command much quicker. Furthermore, as the examiner have discussed in detail above, Wood does not require the interconnection to be SATA in order for wood's invention for successfully work, nor does Wood disclose the utilization of serial port connection would result in technological failure.

Final Office Action dated December 6, 2006, pp. 6-7 (emphasis in original).

Again, the examiner's response is illogical. The fact that *Wood* does not preclude implementing the proposed combination *is logically irrelevant* to whether *Wood* teaches away from the claimed invention. For example, *Wood* also does not teach that connecting a hard disk with a computer using a hemp rope would preclude implementing *Wood's* invention. However, one of ordinary skill knows beyond a shadow of a doubt that a hemp rope connection would preclude *Wood's* invention from operating.

For similar reasons, the examiner's statement holds no logical weight. Therefore, the examiner's response fails to rebut the fact that *Wood* teaches away from claim 1.

Nevertheless, the examiner states that, "Furthermore, since SATA connection operates at faster speed than serial port connection, one would be motivated to combine the references, as data/command can be transferred much quicker." (citation omitted). However, this statement is also illogical.

As a first matter, the invention of claim 1 is *not directed to a SATA connection*. Instead, the invention of claim 1 contains the feature of, "initializing a *serial port* on the storage controller using the received serial port parameter values." (emphasis supplied) As shown above, a serial port is not a SATA connection. Therefore, the fact that a SATA connection operates at a faster speed is *entirely irrelevant* to the claimed invention.

As the examiner appears to acknowledge, using a serial port in *Wood's* technique would result in a dramatic slowdown of data transfer. Therefore, one of ordinary skill would avoid combining *AAPA* and *Wood*. Accordingly, *Wood* teaches away from the invention of claim 1. *Nothing in the examiner's response actually addresses this fact*. For this reason, the examiner's statement fails to rebut the fact that *Wood* teaches away from claim 1. Accordingly, under the standards *In re Gurley*, the examiner failed to state a *prima facie* obviousness rejection against claim 1.

**I.A.2.v. The References Address Different Problems**

In response to the fact that the references address different problems the examiner states that:

In responding to applicant's argument regarding independent claim 1 rejected under 35 U.S.C. 103(a) that no teaching, suggestion, or motivation exists because of Wood and AAPA address different problems, as Wood provide a solution to the problem of speeding up spin-up of disk drives and AAPA provides a solution to initialize serial port, as stated on page 12, 4th paragraph to page 13, last paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

Wood actually provide a solution for greater control of spin-up times of the ATA disk drives, so that inexpensive array of ATA disk drives may be more effectively used in multi-drive array (Wood, col. 2, ll. 57-59), rather than providing a solution to speeding up spin-up of disk drives. Therefore, Wood provides solution to give greater control of the peripheral such that the host computer sends a command to the peripheral for the purpose of initialization of the peripheral in regarding to the spin-up of the peripheral. And, as the examiner has discussed above, the examiner is relying on Wood's general teaching regarding that the host computer coupling to the peripheral through the peripheral's controller, wherein the host computer sends a command to the peripheral for the purpose of initialization. Therefore, Wood's general teaching would provide the solution for spin-up times of the ATA disk drives, and the initialization of serial port, such as the operator utilizing the host computer (i.e. external device) to send the command parameter to the peripheral for the purpose of initialization, wherein the command parameter initializes the serial port. Furthermore, Wood and AAPA both address initialization issues associated with the RAID system. Therefore, the combination of Wood with AAPA would be motivated to provide a greater control of the peripheral (e.g. RAID system) such that the spin-up of the disk drive can be initialized, wherein such implementation may be utilized for the initialization of the corresponding to the peripheral's serial port.

Final Office Action dated December 6, 2006, pp. 7-8 (emphasis in original).

Again, the examiner fails to address the argument at hand. Applicant's argument is that because the references address different problems, no teaching, suggestion, or motivation exists to combine the references *at all*, much less in a manner to achieve the claimed invention. None of the examiner's statements address or rebut this fact.

However, the examiner does repeat the erroneous assertions regarding Wood's teachings. As described at length above, Wood in no way teaches or suggests use of serial port communications.

The examiner also states that Wood teaches a technique for increasing control of spin-up times of a hard disk and that Wood gives a "solution" to give greater control of a "peripheral" such that the host sends a command to the peripheral for the purpose of initialization of the peripheral. However, the examiner's attempt to relate the problems addressed by Wood to AAPA fails because AAPA addresses

*serial port* initialization. As proved above, *Wood* is utterly devoid of disclosure regarding serial ports or serial port initialization. Therefore, *Wood* and *AAPA* address different problems. Accordingly, no teaching, suggestion, or motivation exists to combine the references and the examiner failed to state a *prima facie* obviousness rejection against claim 1.

**1.A.2.vi. *The Examiner Provided No Proper Teaching, Suggestion, or Motivation to Combine the References***

In response to the fact that the examiner failed to provide a proper teaching, suggestion, or motivation to combine the references the examiner states that:

In responding to applicant's argument regarding independent claim 1 rejected under 35 U.S.C. 103(a) that the examiner has not stated a proper teaching, suggestion, or motivation to combine *Wood* with *AAPA* because of the plurality of arguments that applicant have presented above, and also that the examiner has only presented a proposed advantage; and furthermore, the applicant presented an example as following:

first reference teaches the use of lasers to achieve nuclear fusion.

second reference teaches the use of ultra-high power laser deliver more energy.

however, one of ordinary skilled would be motivated to avoid combining the reference because of the extreme expense of ultra-high power laser, therefore, even if an advantage is recognized, one ordinary skilled in the art is motivated to avoid the combination, as stated on page 14, 1st paragraph to 3rd paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

The motivation presented by the examiner is clearly stated by *Wood*, as the motivation is to provide a solution for greater control of spin-up times of the ATA disk drives, so that inexpensive array of ATA disk drives may be more effectively used in multi-drive array (*Wood*, col. 2, 11. 57-59), therefore, the "advantage" is the motivation for combination; and in regarding to the plurality of arguments that applicant have presented thus far, please see the examiner response in detail above.

As for the example that the applicant has presented, it is unclear as to what the applicant considered the desired "invention" to be, therefore, the examiner assumes that the "invention" under consideration is to implement "a ultra-high power laser that is more useful in achieving nuclear fusion", then one ordinary skilled would be motivated to combined the second reference with the first reference, as the extreme expense of the ultra-high power laser does not technologically preclude the success of implementing the "invention". On the other hand, if the first reference further discloses that that use of ultra-high power laser can not achieving nuclear fusion, then one ordinary skilled would be motivated to avoid the combination of the second reference with the first reference, as such combination would result in failure of achieving nuclear

fusion, and furthermore, the "invention" under consideration would then be in question as to the actual success in the implementing "a ultra-high power laser that is more useful in achieving nuclear fusion."

Final Office Action dated December 6, 2006, pp. 8-10 (emphasis in original).

In the first part of the examiner's response, the examiner states that *Wood* provides a solution for greater control of spin up times of ATA disk drives, and that this advantage provides the motivation for the combination. However, the examiner proceeds from the false premise that the proposed combination would actually speed up spin up times. Instead, because serial ports are slow compared to ATA connections (whether serial or otherwise), combining *Wood* and *AAPA* would result in *slowing down* spin up times. For this reason, the proposed combination actually achieves *the opposite result* than that asserted by the examiner. Accordingly, the examiner continues to fail to state a proper teaching, suggestion, or motivation to combine the reference to achieve the invention of claim 1.

In the second part of the examiner's response the examiner misses the point of the example provided. The provided example is just that – an example. The example shows that the simple existence of an advantage is not logically sufficient to establish a proper teaching, suggestion, or motivation to combine references to achieve a claimed invention.

In the case at hand, the examiner explicitly states that the purported advantage is the motivation to combine *Wood* and *AAPA*. However, the examiner then fails to provide any further support that one of ordinary skill would both (1) recognize the proposed advantage and (2) have a reason to implement the proposed advantage. In the case at hand, one of ordinary skill would not recognize the claimed advantage, *vis-à-vis AAPA*, despite the examiner's citation from *Wood*. The citation from *Wood* only proves that *Wood* recognizes the advantage. However, the examiner provides no reason that one of ordinary skill would recognize the usefulness of implementing this advantage with *AAPA*. Additionally, one of ordinary skill would not have a reason to implement the proposed advantage because of the resulting slow down in data transfer rates.

For this reason, the examiner did not state a proper teaching, suggestion, or motivation to combine the references despite the fact that the examiner quoted a purported "advantage" from *Wood*. Accordingly, the examiner failed to state a *prima facie* obviousness rejection against claim 1.

#### **I.A.2.vii. The Examiner Used Impermissible Hindsight When Combining the References**

In response to the fact that that the examiner used impermissible hindsight when combining the references the examiner states that:

In response to applicant's argument regarding independent claim 1 rejection that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, as applicant appears to reiterate the plurality of arguments already

presented above to conclude that the examiner uses his personal opinion rather than using the actual teaching of know prior art for rejection; furthermore, applicant argued that Wood is clearly inappropriate given the citation only refers to SATA connection and not to serial ports, as stated on page 14, last paragraph to page 15, 2nd paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

Please note that it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Furthermore, please see the examiner's response for detail regarding the plurality of arguments already presented by the applicant thus far, such as exactly which aspect of Wood's teaching the examiner is relying on, and Wood's teaching clearly does not only refer to SATA connection, as discussed above.

Final Office Action dated December 6, 2006, p. 10 (emphasis in original).

Despite the examiner's statements, the examiner fails to respond to the fact that the examiner used impermissible hindsight when fashioning the rejection. The examiner first quotes the purported law of hindsight; however, the examiner provides no argument based on that law. The examiner then refers to the examiner's other arguments; however, the examiner's other arguments are plainly wrong for the reasons provided above. In particular, Wood does not refer to *serial port* communications in any way, shape, or form. Therefore, the examiner's statements fail to rebut the fact that the examiner used impermissible hindsight.

#### **I.A.2.viii. Wood Is Non-Analogous Art**

In response to the fact that that Wood is non-analogous art the examiner states that:

In responding to applicant's argument regarding independent claim 1 rejected under 35 U.S.C. 103(a) that Wood is non-analogous art, because Wood is not either in AAPA's field of endeavor, or reasonably pertinent to the particular problem with which the inventor is concerned; more specifically, Wood is not in AAPA's field of endeavor because Wood is in the field of increasing the speed of hard drives and AAPA's field of serial port initialization, as stated on page 15, 3rd paragraph to page 16, 2nd paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

Wood and AAPA are analogous, because Wood would be in the AAPA's field of endeavor, as Wood's invention is solving a problem associated with the RAID system for initializing the RAID system, wherein the initialization is associated

with the spin-up of the disk drives (Wood, col. 6, ll. 26-35), as AAPA intent to solve a problem in the RAID system associated with initialization, wherein the initialization is associated with the peripheral's serial port.

Final Office Action dated December 6, 2006, p. 11 (emphasis in original).

Again, the examiner's statements demonstrate the examiner's misunderstanding of Wood. Wood is not directed towards initializing a RAID system. In fact, Wood is unconcerned with the initialization process. More importantly, Wood explicitly provides that the initialization the spin up of the disk drives is *not* part of the initialization process. For example, Wood provides that:

*Following the additional initialization operation 522, or in the case where the additional initialization operation 522 is not performed following the transmit operation 520, a spin-up operation 524 causes the spindle motor of the disc drive 330 to be spun-up. After the spindle motor of the disc drive 330 has been spun-up, the operational flow 500 ends.*

Wood, col. 11, ll. 60-65 (emphasis supplied).

Wood provides that spin up is conducted *after* the additional initialization operation, and hence presumably the initial initialization operation. Wood also provides that spin up can occur *even when initialization is not performed*. Note that elsewhere Wood provides that initialization is a distinct operation that is independent of spin up. See Figure 5, step 512 of Wood. Thus, the examiner's assertion that spin up is part of initialization is manifestly incorrect.

Given that Wood has nothing to do with initialization of serial ports, Wood is not in the same field of endeavor as the invention of claim 1. Given that Wood has nothing to do with initialization of serial ports Wood is not reasonably related to the problem to be solved by the invention of claim 1. Hence, Wood meets both requirements of *In re Oetiker* and Wood is non-analogous art. Accordingly, the examiner may not use Wood in establishing an obviousness rejection and the examiner failed to state a *prima facie* obviousness rejection against claim 1.

#### I.B. Claims 2 and 14

The examiner rejected claims 2 and 14 under 35 U.S.C. 103(a) as obvious over AAPA, Wood, and Farrand et al., Graphical User Interface for Computer Management System and an Associated Management Information Base, U.S. Patent 5,559,958 (September 24, 1996) (hereinafter "Farrand").

The examiner states that:

AAPA and Wood teach all the limitation of claims 1 and 13 as discussed above, wherein Wood further teaches the storage network system and method, comprising a plurality of mode of communication options including communication conforming to serial ATA, USB, Firewire and Fiber Channel (Wood, col. 6, ll. 15-18 and col. 7, ll. 17-19).

AAPA and Wood does not expressly teach the storage network system and method, comprising: wherein the storage controller receives the at least one serial port parameter value by presenting a boot menu, wherein the boot menu includes a serial console mode, receiving a user selection of a serial console mode, presenting the serial console mode, and receiving operator selection of at least one serial port parameter value in the serial console mode.

Farrand teaches a graphic user interface (GUI) for computer management system and method comprising:

displaying to a user a file server menu, wherein the file server menu includes a engineering server subsystem (Fig. 10);

receiving a user selection of the engineering server subsystem (Fig. 10-11);

presenting the engineering server subsystem (Fig. 11);

receiving the user selectively depressing one of the engineering server subsystem button comprising a configuration subsystem button (Fig. 11, ref. 516), an input/output subsystem button (Fig. 11, ref. 528), a disk storage subsystem button (Fig. 2111, ref. 520) and a security configuration subsystem button (Fig. 11, ref. 518) (Fig. 11 and col. 197, ll. 1-14).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Farrand's GUI menu into AAPA and Wood's storage network system and method. The resulting combination of the references teaches the storage network system and method further comprising:

displaying to the user an initialization menu, wherein the initialization menu includes the serial ATA communication mode;

receiving the user selection of the serial ATA communication mode;

presenting the serial ATA communication mode, wherein the serial ATA communication mode comprises the plurality of serial port parameter settings including start command, baud rate, data bits, stop bits, priority and flow control; and

receiving the user selecting of at least one serial port parameter value in the serial communication mode comprising the start command.

Therefore, it would have been obvious to combine Farrand with AAPA and Wood for the benefit of providing a GUI interface which enable the user/operator to easily select the available options/functions rather than requiring complex typing of commands to implement the desire functionalities.

Final Office Action dated December 6, 2006, pp. 20-22 (emphasis in original).

The examiner has failed to state a *prima facie* obviousness rejection against claims 2 and 14 because the rejection relies on the combination of AAPA and Wood. As established with regards to the

response to the rejection of claim 1, the examiner cannot state a *prima facie* obviousness rejection against claim 1 and 13. Furthermore, *Farrand* does not teach or suggest the features of claim 1, and the examiner does not assert otherwise. Therefore, the examiner can not state a *prima facie* obviousness rejection against claims 2 and 14, at least by virtue of their dependence on claims 1 and 13, respectively.

**I.B.1. The Proposed Combination of References Does Not Teach All of the Features of the Claims**

Additionally, the examiner has failed to state a *prima facie* obviousness rejection because the proposed combination of references, when considered as a whole, does not teach or suggest all of the features of claims 2 and 14. Claim 2 is as follows:

2. The method of claim 1, wherein receiving at least one serial port parameter value includes:
  - presenting a boot menu, wherein the boot menu includes a serial console mode;
  - receiving a user selection of a serial console mode;
  - presenting the serial console mode; and
  - receiving operator selection of at least one serial port parameter value in the serial console mode.

The proposed combination, when considered as a whole, does not teach or suggest the claimed feature of "presenting a boot menu, wherein the boot menu includes a serial console mode," and, by implication, the other claimed features. As shown above, *AAPA* and *Wood* do not teach or suggest initializing a serial port, as claimed. Additionally, *Farrand* is devoid of disclosure in this regard.

*Farrand* teaches a graphical user interface (GUI) for a file server. Although voluminous in its disclosure, *Farrand* never teaches or suggests initializing a serial port using a GUI or any other method. The examiner fails to indicate otherwise. Instead, the examiner only refers to disclosure in *Farrand* that is directed to configuring a subsystem configuration button. In light of the fact that *Farrand* is devoid of specific disclosure regarding initializing serial ports, and in further light of the fact that *AAPA* and *Wood* are also devoid of this disclosure, none of the references teach or suggest all of the features of claim 2. Therefore, the proposed combination of *AAPA*, *Wood*, and *Farrand*, when considered as a whole, does not teach or suggest the feature of "presenting a boot menu, wherein the boot menu includes a serial console mode," as recited in claim 2. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 2 or similar claim 14.

**I.B.2 No Teaching, Suggestion, or Motivation Exists Because the References Address Different Problems**

One of ordinary skill would not combine the references to achieve the invention of claim 2 because the references are directed towards different subject matter. It is necessary to consider the reality of the circumstances--in other words, common sense--in deciding in which fields a person of ordinary



skill would reasonably be expected to look for a solution to the problem facing the inventor. *In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992); *In re Wood*, 599 F.2d 1032, 1036, 202 U.S.P.Q. 171, 174 (CCPA 1979). In the case at hand, the cited references address different subject matter. Thus, no common sense reason exists to establish that one of ordinary skill would reasonably be expected to look to *Farrand* for a solution to the problems described in *Wood* and *AAPA*. Accordingly, no teaching, suggestion, or motivation exists to combine the references and the examiner has failed to state a *prima facie* obviousness rejection of claim 1.

As shown above, *AAPA* is directed to serial port initialization. On the other hand, *Wood* is directed to the problem of speeding up spin-up of disk drives. In further contrast, *Farrand* is directed to managing complex file servers. For example, *Farrand* provides that:

The invention relates to a computer management system and, more particularly, to a computer management system having plural instrumentation agents for querying manageable devices to collect object data, an associated enterprise management information base (or "MIB") for storing object data in accordance with a specified MIB architecture and a graphical user interface (or "GUI") for managing the manageable devices using the enterprise MIB.

*Farrand*, col. 1, ll. 52-59.

Based on the plain disclosures of the references themselves, the references address completely distinct subject matter. Serial port initialization is completely distinct from the problem of speeding up spin-up of disk drives. In turn, both of these subjects are completely distinct from the problem of managing complex file servers.

Because the references address completely distinct subject matter, one of ordinary skill would have no reason to combine or otherwise modify the references to achieve the invention of claim 2. Thus, no proper teaching, suggestion, or motivation exists to combine the references in the manner suggested by the examiner. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 2 or any other claim in this grouping of claims.

### **LB.3. *Farrand* is Non-Analogous Art**

The examiner has failed to state a *prima facie* obviousness rejection because *Farrand* is non-analogous art. In order to rely on a *Farrand* as a basis for rejection, *Farrand* must be either in the applicant's field of endeavor or, if not, then reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d 1443, 1445 (Fed. Cir. 1992); *In re Deminski*, 796 F.2d 436, 442, 230 U.S.P.Q. 313, 315 (Fed. Cir. 1986).

In the case at hand *Farrand* is not in the same field of endeavor of claim 2 and *Farrand* is not reasonably pertinent to the particular problem with which Applicants were concerned. With regard to the first part of the test for analogous art, *Farrand* is not in the same field of endeavor of claim 2 because

*Farrand* is in the field of managing information bases. In contrast, claim 2 is in the field of setting serial port parameters. The two fields are wholly distinct from each other because managing information bases has utterly nothing to do with setting serial port parameters in a serial port. Thus, *Farrand* fails the first test of *In re Oetiker*.

With regard to the second part of the test for analogous art, *Farrand* is not reasonably pertinent to the particular problem with which Applicants were concerned. As established above, *Farrand* is in the field of managing information bases. Specifically, *Farrand* is directed to the problem of managing information bases through the use of graphical user interfaces. For example, *Farrand* provides that:

The invention relates to a computer management system and, more particularly, to a computer management system having plural instrumentation agents for querying manageable devices to collect object data, an associated enterprise management information base (or "MIB") for storing object data in accordance with a specified MIB architecture and a graphical user interface (or "GUI") for managing the manageable devices using the enterprise MIB.

*Farrand*, col. 1, ll. 52-59.

In contrast, claim 2 is directed to the problem of serial port initialization. The problem addressed by *Farrand* is wholly distinct from the problem addressed by claim 2. For this reason, *Farrand* is not reasonably pertinent to the particular problem with which Applicants were concerned. Therefore, *Farrand* fails the second part of the *In re Oetiker* test for analogous art.

As established above, *Farrand* fails both tests for analogous art set forth by *In re Oetiker*. Therefore, *Farrand* is non-analogous art. For this reason, the examiner can not use *Farrand* when fashioning an obviousness rejection against claim 2. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 2.

#### **I.B.4. Rebuttal to the Examiner's First Response**

In response to the above facts, the examiner states that:

In responding to applicant's argument regarding independent claim 2 rejected under 35 U.S.C. 103(a) that the propose combination of AAPA, Wood and Farrand does not teach all the features of the claims, because Farrand does not teach or suggest initialization of a serial port using a GUI or any other method, as stated on page 18, 1<sup>st</sup> paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

As the examiner discussed in detail above, MPA and Wood does teach the initialization of a serial port. Farrand further teaches the utilizing of GUI (i.e. subsystem configuration button) for the purpose of implementing configuration, as all the buttons are associated with various configurations (Farrand, Fig. 11, ref. 516, 518, 520, 528). Therefore, by combining Farrand with AAPA and Wood

the resulting combination teaches utilizing the GUI for the purpose of implementing configuration associated with the initialization of the serial port.

Final Office Action dated December 6, 2006, pp. 11-12 (emphasis in original).

The examiner is attempting to show some general teaching regarding the existence graphical user interfaces to teach the specific claimed features of claim 2. Claim 2 as amended recites, "presenting a boot menu, wherein the boot menu includes a serial console mode" and "receiving a user selection of a serial console mode." These features are specific to serial ports. *Farrand* is utterly devoid of disclosure with regard to initialization of serial ports and is further utterly devoid of disclosure with regard to graphical user interfaces with respect to initialization of serial ports. The examiner may not rely on a GUI "for implementing configuration." Instead, the examiner must show how *Farrand* teaches the specific features of claim 2 that the examiner admits are not in *Wood* and *AAPA*. The examiner has not done so. Therefore, the examiner fails to state a *prima facie* obviousness rejection against claim 2.

#### I.B.5. Rebuttal to the Examiner's Second Response

In response to the above facts, the examiner also states that:

In responding to applicant's argument regarding independent claim 2 rejected under 35 U.S.C. 103(a) applicant appears to argue that *AAPA*, *Wood* and *Farrand* are non-analogous art, as applicant cited *In re Oetiker*, and further emphasized that *Farrand* solves a different problem than *AAPA* and *Wood*, as stated on page 18, 2nd paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

Please note that it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, *Farrand*'s GUI is implemented on a computer (e.g. management station/counsel) coupled to a plurality of disk storage system for configuring the plurality of disk storage system, where as, *AAPA* and *Wood* teaches a host computer coupled to a plurality of disk drives (e.g. disk storage system) for initializing (configuring) the serial port.

Final Office Action dated December 6, 2006, p. 12 (emphasis in original).

The examiner's assertion that *AAPA* and *Wood* teach the invention of claim 1 is erroneous for the reasons given above. Therefore, the response fails to cure the fundamental problem with the base rejection of claim 2.

Additionally, the examiner misapprehends Applicant's argument. Applicant's argument is directed to the fact that one of ordinary skill would not be motivated to combine the references because the references address different problems. This particular argument is not directed to whether *Farrand* is non-analogous art, though *Farrand* actually is non-analogous art.

Furthermore, the examiner's statement that *Farrand*'s GUI is implemented on a computer coupled to a plurality of disk storage systems for configuring the plurality of disk storage systems is disingenuous. *Farrand* is directed to management information bases that have nothing to do with serial port initialization. The examiner can not use the "general" teachings of *Farrand* to teach a specifically claimed feature. See *In re Royka*. Therefore, the examiner's response fails to cure the deficiency with the rejection.

Additionally, Applicants will address the examiner's statements with regard to the fact that *Farrand* is non-analogous art. In light of the requirements of *In re Oetiker*, the examiner's characterizations of *Farrand* and claim 2 are too broad to establish that *Farrand* is in the same field of endeavor as claim 2. For example, the court in *In re Oetiker* stated that:

The examiner stated that "since garments commonly use hooks for securement", a person faced with the problem of unreliable maintenance of the pre-assembly configuration of an assembly line metal hose clamp would look to the garment industry art.

*In re Oetiker*, 977 F.2d 1443 at 1446.

The examiner in *In re Oetiker* attempted to use substantially the same argument as the present examiner. The argument is as follows: Because *Farrand* and the claim both deal with the same broad class of problem, *Farrand* is in the same field of endeavor as the claimed invention. However, the Court of Appeal for the Federal Circuit specifically states that this argument is incorrect:

*It has not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments.* The combination of elements from nonanalogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself.

Id. at 1447 (emphasis supplied).

The court ruled that the examiner failed to show that a person of ordinary skill solving a problem of fastening *hose clamps* would reasonably be expected or motivated to look to a *Farrand* dealing with *fasteners for garments*. Even though both technologies are in the same broad field of fastening objects, *Farrand* was still considered to be non-analogous art.

In the case at hand, *Farrand* is directed to the field of management information bases. In contrast, claim 2 is directed to the field of serial port initialization. These fields are more distinct from each other than the field of hose clamps and the field of fasteners for garments. Therefore, under the standards of *In re Oetiker*, *Farrand* is non-analogous art to claim 2, notwithstanding the examiner's assertions to the contrary.

#### I.C. Claims 4 and 16

The examiner rejected claims 4 and 16 under 35 U.S.C. § 103(a) as obvious over *AAPA* and *Wood* in further view of *Harrington*, Single-Use Passwords for Smart Paper Interfaces, U.S. Patent 6,480,958 (November 12, 2002) (hereinafter "*Harrington*"). The examiner states that:

As per claims 4 and 16, AAPA and Wood teach all the limitation of claims 3 and 15 as discussed above.

AAPA and Wood does not expressly teach the storage network system and method, further comprising wherein the storage controller has a hard-coded password for authenticating an operator of the host device before receiving the at least one serial port parameter values from the host device.

Harrington teaches a system and a method comprising a user entering the information comprising a secret password and a personal user name or identification number and verifying the entered information is correct before granting access to the user (col. 1, ll. 30-45).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Harrington's entering and verification of the secret password and the personal user name or identification number into AAPA and Wood's storage network system and method. The resulting combination of the references teaches the storage network system and method further comprising the user/operator to enter the information comprising the secret password and the personal user name or identification number and verifying the entered information is correct before enabling the receiving of the start command send by the user/operator.

Therefore, it would have been obvious to combine Harrington with AAPA and Wood for the benefit of providing security measures to ensure the receiving of the serial port parameter settings only from authorized user/operator (Harrington, col. 1, ll. 30-33).

Final Office Action dated December 6, 2006, pp. 22-23 (emphasis in original).

The examiner has failed to state a *prima facie* obviousness rejection against claims 4 and 16 because the rejection relies on the combination of *AAPA* and *Wood*. As established with regards to the response to the rejection of claim 1, the examiner cannot state a *prima facie* obviousness rejection against

claim 4 and 16. Furthermore, *Harrington* does not teach or suggest the features of claim 1. Therefore, the examiner can not state a *prima facie* obviousness rejection against claims 4 and 16, at least by virtue of their dependence on claims 1 and 13, respectively.

**I.C.1. The Proposed Combination of References Does Not Teach All of the Features of the Claims**

Additionally, the examiner has failed to state a *prima facie* obviousness rejection because the proposed combination of references, when considered as a whole, does not teach or suggest all of the features of claims 4 and 16. Claim 4 is as follows:

4. The method of claim 3, wherein receiving at least one serial port parameter value includes:  
    authenticating an operator of the host device before receiving the at least one serial port parameter values from the host device.

The proposed combination, when considered as a whole, does not teach or suggest the claimed feature of "authenticating an operator of the host device *before receiving the at least one serial port parameter values from the host device.*" As shown above, *AAPA* and *Wood* do not teach or suggest initializing a serial port, as claimed. Additionally, *Harrington* is devoid of disclosure in this regard.

*Harrington* teaches a security control system for remote computers. *Harrington* does not teach or authenticating an operator of the host device before receiving the at least one serial port parameter values from the host device. The examiner fails to indicate otherwise. Instead, the examiner only refers to disclosure in *Harrington* that is directed to authentication information for a user. In light of the fact that *Harrington* is devoid of specific disclosure regarding initializing serial ports, and in further light of the fact that *AAPA* and *Wood* are also devoid of this disclosure, none of the references teach or suggest all of the features of claim 4. Therefore, the proposed combination of *AAPA*, *Wood*, and *Harrington*, when considered as a whole, does not teach or suggest the feature of "authenticating an operator of the host device *before receiving the at least one serial port parameter values from the host device,*" as recited in claim 4. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 4 or similar claim 16.

**I.C.2. No Teaching, Suggestion, or Motivation Exists Because the References Address Different Problems**

One of ordinary skill would not combine the references to achieve the invention of claim 2 because the references are directed towards different subject matter. It is necessary to consider the reality of the circumstances—in other words, common sense—in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor. *In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992); *In re Wood*, 599 F.2d 1032, 1036, 202 U.S.P.Q. 171, 174 (CCPA 1979). In the case at hand, the cited references address different subject matter. Thus, no

common sense reason exists to establish that one of ordinary skill would reasonably be expected to look to *Harrington* for a solution to the problems described in *Wood* and *AAPA*. Accordingly, no teaching, suggestion, or motivation exists to combine the references and the examiner has failed to state a *prima facie* obviousness rejection of claim 1.

As shown above, *AAPA* is directed to serial port initialization. On the other hand, *Wood* is directed to the problem of speeding up spin-up of disk drives. In further contrast, *Harrington* is directed to user authentication in the context of smart paper. For example, *Harrington* provides that:

However, in systems that provide access to information, it is advantageous to implement security measures in order to limit access to only those individuals who are authorized. Often data is personal, private, and/or otherwise sensitive and it is desirable to not have it openly available. Moreover, where the remote computer or device is being instructed to perform tasks, only those individuals authorized to operate it are to be granted access. A common approach to establishing access rights is through the use of a secret password and personal user name or identification number. The password is a sequence of characters that the authorized user alone knows and enters into the computer along with their user name or identification number. The computer then checks the password against that assigned to the user to verify authorization. One problem with using this scheme in smart paper applications is that the password would be written down. This greatly jeopardizes the systems security by potentially revealing otherwise secret passwords to unauthorized individuals. As an alternative, the password may be entered via the telephone buttons or numeric keypad as part of establishing the fax link. However, this would involve the establishment of a special connection protocol in every fax machine that was to be used. Generally, it is more desirable to use arbitrary conventional fax machines. It is therefore advantageous to send the authorization code on the smart paper along with the instructions.

*Harrington*, col. 1, ll. 31-36.

Based on the plain disclosures of the references themselves, the references address completely distinct subject matter. Serial port initialization is completely distinct from the problem of speeding up spin-up of disk drives, as in *Wood*. In turn, both of these subjects are completely distinct from the problem of user authentication in the context of smart paper, as in *Harrington*.

Because the references address completely distinct subject matter, one of ordinary skill would have no reason to combine or otherwise modify the references to achieve the invention of claim 4. Thus, no proper teaching, suggestion, or motivation exists to combine the references in the manner suggested by the examiner. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 4 or any other claim in this grouping of claims.

### I.C.3. *Harrington* Is Non-Analogous Art

The examiner has failed to state a *prima facie* obviousness rejection because *Harrington* is non-analogous art. In order to rely on a *Harrington* as a basis for rejection, *Harrington* must be either in the

applicant's field of endeavor or, if not, then reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d 1443, 1445 (Fed. Cir. 1992); *In re Deminski*, 796 F.2d 436, 442, 230 U.S.P.Q. 313, 315 (Fed. Cir. 1986).

In the case at hand *Harrington* is not in the same field of endeavor of claim 4 and *Harrington* is not reasonably pertinent to the particular problem with which Applicants were concerned. With regard to the first part of the test for analogous art, *Harrington* is not in the same field of endeavor of claim 4 because *Harrington* is in the field of security control system for remote computers. In contrast, claim 4 is in the field of setting serial port parameters. The two fields are wholly distinct from each other because security control systems for remote computers have utterly nothing to do with setting serial port parameters in a serial port. Thus, *Harrington* fails the first test of *In re Oetiker*.

With regard to the second part of the test for analogous art, *Harrington* is not reasonably pertinent to the particular problem with which Applicants were concerned. As established above, *Harrington* is in the field of security control system for remote computers. Specifically, *Harrington* is directed to the problem of user authentication in the context of smart paper. For example, *Harrington* provides that:

However, in systems that provide access to information, it is advantageous to implement security measures in order to limit access to only those individuals who are authorized. Often data is personal, private, and/or otherwise sensitive and it is desirable to not have it openly available. Moreover, where the remote computer or device is being instructed to perform tasks, only those individuals authorized to operate it are to be granted access. A common approach to establishing access rights is through the use of a secret password and personal user name or identification number. The password is a sequence of characters that the authorized user alone knows and enters into the computer along with their user name or identification number. The computer then checks the password against that assigned to the user to verify authorization. One problem with using this scheme in smart paper applications is that the password would be written down. This greatly jeopardizes the systems security by potentially revealing otherwise secret passwords to unauthorized individuals. As an alternative, the password may be entered via the telephone buttons or numeric keypad as part of establishing the fax link. However, this would involve the establishment of a special connection protocol in every fax machine that was to be used. Generally, it is more desirous to use arbitrary conventional fax machines. It is therefore advantageous to send the authorization code on the smart paper along with the instructions.

*Harrington*, col. 1, ll. 31-56.

In contrast, claim 4 is directed to the problem of serial port initialization. The problem addressed by *Harrington* is wholly distinct from the problem addressed by claim 4. For this reason, *Harrington* is not reasonably pertinent to the particular problem with which Applicants were concerned. Therefore, *Harrington* fails the second part of the *In re Oetiker* test for analogous art.



As established above, *Harrington* fails both tests for analogous art set forth by *In re Oetiker*. Therefore, *Harrington* is non-analogous art. For this reason, the examiner can not use *Harrington* when fashioning an obviousness rejection against claim 4. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 4.

#### I.C.4. Rebuttal to the First Examiner's Response

In response to the above facts the examiner states that:

In responding to applicant's argument regarding independent claim 4 rejected under 35 U.S.C. 103(a) that the proposed combination of AAPA, Wood and Harrington does not teach all the features of the claims, because Harrington does not teaches or suggest initializing a serial port before receiving the at least one serial port parameter values from the host device, as stated on page 20, 2<sup>nd</sup> paragraph to 4<sup>th</sup> paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

The claimed limitation as stated for claim 4 requires "... wherein receiving at least one serial port parameter value including authenticating an operator of the host device before receiving the at least one serial port parameter value from the host device ..." it is unclear to the examiner where the claim limitations require "initializing a serial port before receiving the at least one serial port parameter values from the host device," on the contrary, it appears that the initialization of the serial port is after the receiving the at least one serial port parameter values from the host device, as disclosed in independent claim 1. Therefore, it appears unclear to the examiner as to which claimed limitations the applicant's argument is applied. As for the claimed limitation "initialization a serial port" being taught by the combined teaching of AAPA and Wood, please view the examiner's detailed discussion above.

Final Office Action dated December 6, 2006, p. 13 (emphasis in original).

The examiner correctly recites the features of claim 4 as, "authenticating an operator of the host device before receiving the at least one serial port parameter values from the host device." Applicants apologize for the word processor error of reciting the claim feature as "initializing a serial port before..." that may have prompted the examiner's response to the original response to office action.

However, the fact remains that *Harrington* does not teach or suggest the claimed feature of "authenticating an operator of the host device before receiving the at least one serial port parameter values from the host device." Even if *Harrington* teaches general authenticating of operators, *Harrington* does not teach or suggest doing so *before receiving the at least one serial port parameter values from the host device*, as in claim 4. Given that *Wood* and *AAPA* also do not teach this claimed feature, the proposed

combination of these references, when considered as a whole, does not teach or suggest this claimed feature. Accordingly, the proposed combination does not teach all of the features of claim 4. Therefore, under the standards of *In re Royka*, the examiner has failed to state a *prima facie* obviousness rejection against claim 4.

#### **I.C.5. Rebuttal to the Second Examiner's Response**

In response to the above facts, the examiner further states that:

In responding to applicant's argument regarding independent claim 4 rejected under 35 U.S.C. 103(a) that no teaching, suggestion, or motivation because AAPA, Wood and Harrington are non-analogous art, as applicant has cited *In re Oetiker*; as AAPA is directed to serial port initialization, Wood is directed to the problem of speeding up spin of disk drives and Harrington is directed to user authentication in the context of smart paper, therefore the references address completely distinct subject matter, as stated on page 20, last paragraph to page 21, last paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

Please view examiner detail response above in regarding to the AAPA and Wood being analogous art. Furthermore, please note that the examiner is not relying on Harrington's teaching directing to the user authentication in the context of smart paper, but rather the background disclosure by Harrington that a user attempt to gain access to a system (e.g, computer) by entering a secret password and a personal user name or identification number, and after proper verification that the entered information are correct, the user is granted access (Harrington, col. 1, ll. 30-45).

By combining Harrington's user authentication into AAPA and Wood's storage network system and method, such as in the storage controller; the resulting combination teaches the operator to entering the secret password and the personal user name or identification number, and after proper verification that the entered information are correct, the operator is granted access to the RAID system as the at least one serial port parameter values is received from the host computer.

The motivation for the combination of Harrington with AAPA and Wood is to provide security measures to ensure granting of access to only those individuals who are authorized (Harrington, col. 1, ll. 30-33), which is also taught by Harrington's background disclosure.

Final Office Action dated December 6, 2006, pp. 13-14 (emphasis in original).

Applicants first rebut the examiner's assertion regarding the "general" teachings of *Harrington*. The examiner asserts that the examiner relies on, "the background disclosure by Harrington that a user attempt to gain access to a system (e.g, computer) by entering a secret password and a personal user name or identification number, and after proper verification that the entered information are correct, the user is granted access." However, the examiner is not entitled to rely on the general teachings of *Harrington*.

See *In re Royka*. Instead, the examiner must demonstrate how *Harrington*, together with *AAPA* and *Wood*, teaches the *entire and specific* claimed feature of, "authenticating an operator of the host device before receiving the at least one serial port parameter values from the host device." The examiner has not done so. Therefore, the examiner has failed to state a *prima facie* obviousness rejection.

Furthermore, the examiner's reliance on the general teachings of *Harrington* is disingenuous. Even if the examiner relies on *Wood* and *AAPA* to teach the "before receiving" portion of claim 4, no reason exists to pick and choose some feature of the background art from a reference unrelated to the claims or to *Wood* or *AAPA*. Therefore, again, the examiner failed to state a *prima facie* obviousness rejection.

#### I.D. Claims 6-8 and 18-20

The examiner rejected claims 6-8 and 18-20 as obvious over *AAPA* and *Wood* in further view of *Walter et al.*, Baud Rate Detection in Serial Data Transmission, U.S. Patent 6,847,615 (January 25, 2005) (hereinafter "*Walter*"). The examiner states that:

As per claims 6 and 18, *AAPA* and *Wood* teach all the limitation of claim 1 and 13 as discussed above, where *AAPA* further teaches the storage network system and method, comprising:

wherein the set of serial port parameters includes baud rate (*AAPA*, Specification, page 2, ll. 17-18); and

wherein the serial port parameter including baud rate is invoked as the user utilizing a break key sequence (*AAPA*, Specification, page 2, l. 28 to page 3, l. 1).

*AAPA* and *Wood* does not teach the storage network system and method, comprising wherein receiving at least one serial port parameter value includes the external device performing an adaptive baud rate negotiation between the storage controller and the external device.

*Walter* teaches a system and a method for baud rate detection for serial data comprising the negotiating the baud rate of the transferring data by utilizing the function of setting a receiving device (storage device) to a correct baud rate for receiving data (col. 2, ll. 8-15), wherein the data received comprises of a predetermined data word, such as one of the character 'A' or 'a', and the next character in the serial data transmission may be 'T' or 't' (col. 2, ll. 49-52 and col. 6, ll. 43-49).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include *Walter's* function for setting the correct baud rate into *AAPA* and *Wood's* storage device. The resulting combination of the references teaches the storage network system and method further comprising the

user utilizing the external device to send the predetermined data word comprising the break key sequence to enable the storage device to implement the function setting the correct baud rate for receiving data.

Therefore, it would have been obvious to combine Walter with AAPA and Wood for the benefit of providing the automatic determination of baud rate for the serial data transmission (Walter, Abstract and col. 2, ll. 1-2).

As per claims 7 and 19, AAPA, Wood and Walter teach all the limitation of claims 6 and 18 as discussed above, where AAPA and Walter further teach the storage network system and method, comprising:

wherein the external device performs an adaptive baud rate negotiation by sending a break key sequence from the external device to the storage controller (AAPA, Specification, page 2, l. 28 to page 3, l. 1 and Walter, col. 2, ll. 49-52),

determining an amount of time between a start bit and a stop bit (Walter, col. 4, ll. 37-61 and col. 9, ll. 12-17), wherein the processor must determine the amount of time between the start bit and the stop bit in order to program the timer to generate an interrupt, and

obtaining a baud rate based on the amount of time (Walter, col. 9, ll. 18-45), wherein the baud rate is determined based on the interrupt generated by the timer and the processor's detection of the priority bit.

As per claims 8 and 10, AAPA, Wood and Walter teach all the limitation of claims 7 and 19 as discussed above, where Walter further teaches the storage network system and method, comprising wherein the external device obtains a baud rate based on the amount of time includes performing a look-up of the baud rate in a look-up table (Walter, col. 2, ll. 55-58 and col. 6, ll. 43-49).

Final Office Action dated December 6, 2006, pp. 23-26 (emphasis in original).

**I.D.1. The Proposed Combination Does Not Teach or Suggest All of the Features of Claim 6**

The examiner has failed to state a *prima facie* obviousness rejection against these claims because the rejection relies on the combination of AAPA and Wood. As established with regards to the response to the rejection of claim 1, the examiner cannot state a *prima facie* obviousness rejection against these claims. Furthermore, Walter does not teach or suggest the features of claim 1. Therefore, the examiner can not state a *prima facie* obviousness rejection against claims 6-8 and 18-20, at least by virtue of their dependence on claims 1 and 13, respectively.

Additionally, the examiner has failed to state a *prima facie* obviousness rejection because the proposed combination of references, when considered as a whole, does not teach or suggest all of the features of claims 6-8 and 18-20. For example, claim 6 is as follows:

6. The method of claim 1, wherein the set of serial port parameters includes baud rate and wherein receiving at least one serial port parameter value includes

performing an adaptive baud rate negotiation between the storage controller and an external device connected to the storage controller through the serial port.

The proposed combination, when considered as a whole, does not teach or suggest the claimed feature of "performing an *adaptive* baud rate negotiation between the storage controller and an external device connected to the storage controller through the serial port," as claimed. *AAPA* and *Wood* do not teach or suggest this claimed feature. Additionally, *Walter* is devoid of disclosure in this regard.

*Walter* does teach a method for determining and setting a baud rate of a serial data transmission. However, *Walter* teaches a method that is entirely distinct from the claimed feature of adaptive baud rate negotiation. Specifically, *Walter* teaches identifying the baud rate, checking to see if the identified baud rate is correct, setting a new baud rate if the identified baud rate is not correct, checking the new baud rate, and then iteratively setting a baud rates and checking baud rates until the correct baud rate is achieved. *Walter* describes the process as "autobauding." For example, *Walter* provides for:

A method for automatically determining the baud rate of a serial data transmission comprises the steps of setting a receiving device to a first baud rate, processing (65) a first data word received by said receiving device and possibly further information to determine said baud rate of said data transmission, possibly setting (68) said receiving device to a second baud rate in order to enable said receiving device to find the beginning of a subsequent data word in said serial data transmission, and possibly setting (74) said receiving device to said determined baud rate. A corresponding apparatus and a mobile telephone each employs this method. The invention provides an autobauding function which causes little expense in terms of hardware and processing time, and which will correctly synchronize with the serial data transmission even if the transmitted data words immediately follow each other.

*Walter*, Abstract.

In contrast, the invention of claim 6 requires "adaptive baud rate negotiation." This term is defined in the specification as follows:

The present invention also provides an adaptive baud rate negotiation mechanism using the Universal Asynchronous Receiver Transmitter (UART) registers in the serial port. The adaptive baud rate negotiation is based on the return characters received from a break character from the serial console. The controller may have a UART chip on board that contains programmable baud rate generator that is capable of taking any clock input and dividing it by a divisor from 2 to 65,535. The output frequency of the baud rate generator is sixteen times the baud [divisor # = (frequency input) / (baud rate \* 16)]. Two 8-bit latches store the divisor in a 16-bit binary format. The divisor latches must be loaded during initialization to ensure proper baud rate selection and operation of the baud generator. Upon loading either of the divisor latches, a 16-bit baud counter is immediately loaded.

The adaptive baud rate negotiation mechanism sets a default baud rate, such as 9600 bps, during controller boot up and waits for a return character to be received on an external device connected to the serial port after sending a <BREAK> from the serial console. The time taken to transmit a bit depends on the baud rate set on the UART. In the time for transmitting a single bit using 9600 bps, two bits may be transmitted if 19,200 bps is used. Hence, starting an arbitrary timer as soon as the <BREAK> is

transmitted and terminating the timer upon receiving a return character from the terminal can compute the time taken to receive the character on the console.

The adaptive baud rate negotiation mechanism waits for a start bit (falling edge) on the serial input pin and then starts the timer. At every subsequent rising edge of the serial data, the timer value is captured and saved. When the timer expires, the last captured value will indicate the duration of the serial character from the start bit to the last zero-to-one transition.

Applicant's specification, p. 8, ll. 4-14.

Thus, "adaptive baud rate negotiation" uses time values and break characters in concert with the UART to establish baud rate negotiation. This technique is entirely distinct from the technique shown in *Walter*. The techniques are so different that no one of ordinary skill would consider *Walter's* technique of "autobauding" as teaching or suggesting the claimed technique of "adaptive baud rate negotiation." Accordingly, none of the references teach the claimed feature of "adaptive baud rate negotiation." Therefore, the proposed combination of *AAPA*, *Wood*, and *Walter*, when considered as a whole, does not teach or suggest this claimed feature as recited in claim 4. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claims 6 or 18.

Additionally, the combination of the references does not teach other features of claims 7, 8, 19, or 20. Therefore, the examiner has failed to state a *prima facie* obviousness rejection against these claims, as well.

#### LD.2. Rebuttal to the Examiner's Response

In response to the above facts the examiner states that:

In responding to applicant's argument regarding independent claim 6 rejected under 35 U.S.C. 103(a) that the combined teaching of *AAPA*, *Wood* and *Walter* do not teach the claimed feature of "performing an adaptive baud rate negotiation between the storage controller and an external device connected to the storage controller through the serial port," because *Walter* does not teach "adaptive baud rate negotiation," such that the "adaptive baud rate negotiation" uses time value and break characters in concert with the UART to establish baud rate negotiation, as stated on page 23, 3<sup>rd</sup> paragraph to page 25, 1<sup>st</sup> paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

Please note that the features upon which applicant relies (i.e., using time value and break characters in concert with the UART to establish baud rate negotiation) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 11 81, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, the setting of the baud rate would be adaptively negotiated, as stated in the applicant's remark: "

"identifying a baud rate,

checking to see if the identified baud rate is correct,

setting a new baud rate if the identified baud rate is not correct,

checking the new baud rate, and

then iteratively setting a baud rate and checking baud rate until the correct baud rate is achieved." (applicant's remarks, p. 23, last paragraph)

as the correct baud rate is adaptively negotiated through the iteration of setting and checking.

Final Office Action dated December 6, 2006, pp. 15-16 (emphasis in original).

The examiner first asserts that the features argued by Applicants are not recited in the claims. However, the examiner is incorrect. The precise claim feature recited in claim 6 is, "wherein receiving at least one serial port parameter value includes performing *an adaptive baud rate negotiation* between the storage controller and an external device connected to the storage controller through the serial port" (emphasis supplied).

An applicant is entitled to be his or her own lexicographer and may rebut the presumption that claim terms are to be given their ordinary and customary meaning by clearly setting forth a definition of the term that is different from its ordinary and customary meaning(s). See *In re Paulsen*, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (inventor may define specific terms used to describe invention, but must do so "with reasonable clarity, deliberateness, and precision" and, if done, must "set out his uncommon definition in some manner within the patent disclosure" so as to give one of ordinary skill in the art notice of the change" in meaning) (quoting *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387-88, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992)). Where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim. *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) (meaning of words used in a claim is not construed in a "lexicographic vacuum, but in the context of the specification and drawings"). Any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." *Multiform Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998).

In the case at hand, the term "adaptive baud rate negotiation" is not a common term of art. For example, a search on Google revealed *two* hits when searching for this term. *Both* of these hits refer to *Applicant's own patent application publication*. Thus, the term "adaptive baud rate negotiation" is a unique term defined in *this* patent application.

As shown above, the claimed term "adaptive baud rate negotiation" is sufficiently clear in the specification such that any departure from common usage would be understood by a person of experience in the field of the invention, under the standards of *Multi-form Dessicant*. Additionally, the term "adaptive baud rate negotiation" is set forth in the specification with reasonable clarity, deliberateness, and precision and sets out the uncommon definition a manner within the application's disclosure so as to give one of ordinary skill in the art notice of the meaning, under the standards of *In re Paulsen*. Therefore, the definition of the claimed term, "adaptive baud rate negotiation" is a part of the features of claim 6, notwithstanding the examiner's protestations to the contrary.

Regarding the examiner's statements that the prior art teaches adaptive baud rate negotiation, the examiner is again manifestly incorrect. None of the examiner's statements address the fact that, "adaptive baud rate negotiation is based on the return characters received from a break character from the serial console," as provided in the specification at page 8. As shown above, because the term "adaptive baud rate negotiation" necessarily includes the definition presented in the specification, the examiner is not entitled to ignore this fact. In the case at hand, the examiner has not shown how the references teach this claimed feature of "adaptive baud rate negotiation." The examiner cannot establish that the prior art teaches this claimed feature because the prior art is devoid of disclosure in this regard. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 6 or the remaining claims in this grouping of claims.

#### I.E. Claim 9

The examiner rejected claim 9 under 35 U.S.C. 103(a) as obvious over *AAPA* in view of *Krulce*, Automatic Baud Rate Detection, U.S. Patent 6,072,827 (June 6, 2000) (hereinafter "*Krulce*"). This rejection is respectfully traversed. In rejecting claim 9 the examiner states that:

AAPA teaches a method of performing an adaptive baud rate negotiation for serial port initialization in a storage controller, wherein the storage controller (disk/RAID controller) includes a serial port for connection to an external device (Specification, page 2, ll. 14-15), the method comprising sending a break key sequence from the external device to the storage controller (AAPA,



Specification, page 2, l. 28 to page 3, l. 1), wherein the user invoke the break key sequence to cycle through baud rate values for the serial port;

AAPA does not teach the method comprising:

determining an amount of time between a start bit and a stop bit;

obtaining a first baud rate based on the amount of time; and

setting a second baud rate for the serial port based on the first baud rate.

Krulce teaches a system and a method comprising:

determining a number of counts between a start bit and a stop bit (Fig. 4, ref. 134, 146, 152 and col. 6, ll. 44-50);

a initial baud rate (Fig. 4, ref. 130) is incremented (Fig. 4, ref. 156) / decremented (Fig. 4, ref. 162) to obtain a first baud rate base on the number of count determined between the start bit and the stop bit (Fig. 4 and col. 6, l. 50 to col. 7, l. 9); and

the first baud rate is incremented (Fig. 4, ref. 156) / decremented (Fig. 4, ref. 162) to obtain and set a second bald rate as the transmitting device and the receiving device agrees on the baud rate as of the second attempt (Fig. 4 and col. 7, ll. 10-44).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Krulce's baud rate setting into AAPA's method.

Therefore, it would have been obvious to combine Krulce with AAPA for the benefit of implementing a low-cost receiving device for determining of the correct baud rate between the transmitting device and the receiving device for serial communication (Krulce, col. 2, ll. 25-50).

Final Office Action dated December 6, 2006, pp. 26-27 (emphasis in original).

Claim 9 is as follows:

9. A method of performing an adaptive baud rate negotiation for serial port initialization in a storage controller, wherein the storage controller includes a serial port for connection to an external device, the method comprising:
  - sending a break key sequence from the external device to the storage controller;
  - determining an amount of time between a start bit and a stop bit;
  - obtaining a first baud rate based on the amount of time; and
  - setting a second baud rate for the serial port based on the first baud rate.

**I.E.1. The Proposed Combination Does Not Teach All of the Features of Claim 9**

The examiner failed to state a *prima facie* obviousness rejection because the combination of references, considered as a whole, does not teach all of the features of claim 9. The examiner's assertions to the contrary are simply wrong.

The examiner admits and Applicants agree that *AAPA* does not teach or suggest all of the features of claim 9. Additionally, *Krnlce* does not teach or suggest the claimed features of, "determining an amount of time between a start bit and a stop bit" and "obtaining a first baud rate based on the amount of time; and setting a second baud rate for the serial port based on the first baud rate." The examiner asserts otherwise, citing from the following passage from *Krnlce*:

Processing then advances to block 152 where processor 100 obtains the actual number of one-to-zero transitions occurring on the serial communication line 120. More particularly, Processing in block 152 accesses DMA counter 106b to determine the number of such one-to-zero transitions and assign this value to the variable X. Continuing to block 154, the number of one-to-zero transitions in the character interpreted as received are calculated and assigned to the variable Y. In decision block 156, the number of actual one-to-zero transitions is compared to the number of character one-to-zero transitions, i.e., the relative magnitude of variables X and Y are compared. If the number of actual transitions is greater than the number of character transitions, then the current baud rate is too low and processing passes from decision block 156 to block 158 where the current baud rate is incremented. Processing then returns to block 132. However, if the number of actual one-to-zero transitions is not greater than the number of character one-to-zero transitions, then processing passes to decision block 160. If a framing error was previously detected in decision block 146, then processing passes from decision block 160 to block 162 where the current baud rate is decremented and processing returns to block 132. If no framing error is present, then processing passes from decision block 160 to decision block 170. Decision block 170 detects whether the number of actual one-to-zero transitions is less than the number of character one-to-zero transitions. If the number of actual transitions is less than the number of character transitions, then processing passes from decision block 170 to block 162 where the current baud rate is decremented and processing then returns to block 132. Otherwise, the current baud rate is the correct baud rate and processing exits from decision block 170.

*Since a frame error or transition count mismatch does not occur for all characters when the baud rates are mismatched, particular characters may be used as "sign on" characters to enhance detection of baud rate under the present invention. The ASCII code for character DC4 (control-T or hex 14) is considered useful under the present invention.*

FIG. 5 illustrates "sign on" character DC4 at a given baud rate and interpretation thereof at various receiver baud rates. If the receiving device baud rate is set lower than the data sent, then character DC4 is guaranteed to generate a transition count mismatch. At half the correct baud rate, the receiver will see bits 1 and 2 as bit 0, see bits 3 and 4 as bit 1, and see bits 5 and 6 as bit 2. Regardless of how it reads these bits, it can see a maximum of only a single one-to-zero transition. The

transition counter 106b will see two one-to-zero transitions and a transition mismatch is guaranteed. This same scenario holds true at a quarter baud rate. At less than a quarter of the baud rate, the receiver will see no one-to-zero transitions.

If the receiver baud rate is set higher than the data sent, then character DC4 is guaranteed to generate a frame error. At twice the correct baud rate, the receiver will see the stop bit during bit 3. At four times, it will see the stop bit during bit 1. At eight times, it will see the stop bit during bit 0. At any greater baud rate, it will see the stop bit during the start bit.

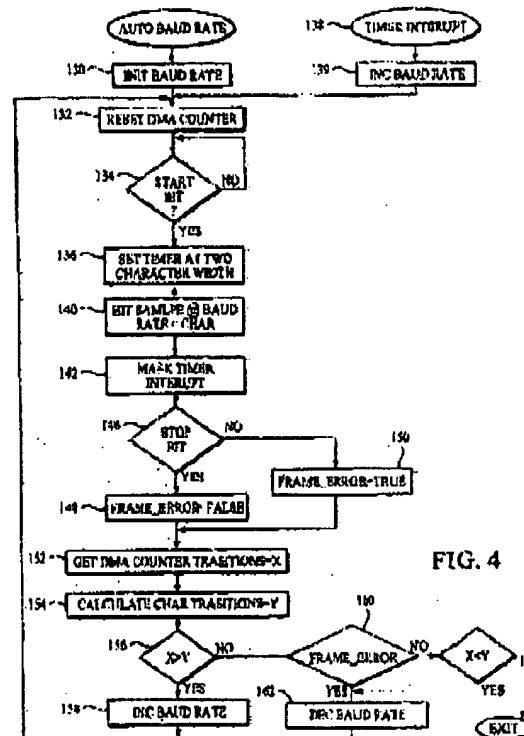
*By using character DC4 as a "sign on" character, the automatic baud rate detection method of the present invention correctly determines the correct baud rate in three attempts, i.e., by monitoring three occurrences of the character DC4 sent as a "sign on" character from the transmitting device. When transmitting three "sign on" characters in each attempt, the receiving device and sending device agree on baud rate as of the second attempt.*

*Krulce*, col. 6, l. 50 through col. 7, l. 44 (emphasis supplied).

*Krulce* teaches that baud rate negotiation can be accomplished by monitoring occurrences of a character. Frame errors and transition count mismatches cause the baud rate to automatically change. Eventually, the baud rate will be set to the correct rate when the mismatches stop.

However, nothing in *Krulce* teaches the claimed features of, "determining an amount of time between a start bit and a stop bit" and "obtaining a first baud rate based on the amount of time; and setting a second baud rate for the serial port based on the first baud rate." Nothing in *Krulce* describes determining an actual *amount of time* between a start bit and a stop bit, as claimed. Nothing in *Krulce* teaches that the baud rate is determined based on the amount of time, as claimed. As the quoted passage shows, the examiner's assertions to the contrary are simply wrong and exist only in the mind of the examiner.

Nevertheless, the examiner also cites Figure 4 of *Krulce* as teaching these claimed features, specifically referring to reference numerals 156 and 162. Figure 4 of *Krulce* is as follows:



*Krulce*, Figure 4.

Figure 4 of *Krulce* is the figure described by the text quoted above. Reference numeral 156 refers to a determination whether " $X > Y$ ". From the quoted text, this step determines, "the number of actual one-to-zero transitions is compared to the number of character one-to-zero transitions." However, the number of transitions *has utterly nothing to do with* the time between the start bit and the stop bit, especially not in the manner claimed.

Likewise, reference numeral 162 has utterly nothing to do with the time between the start bit and the stop bit, especially not in the manner claimed. Reference numeral 162 refers to "DEC BAUD RATE." From the quoted text, this step is described as the place, "where the current baud rate is decremented and processing returns to block 132." Thus, *Krulce* describes the baud rate as being decremented in the process of attempting to determine the final baud rate. However, this process has utterly nothing to do with, "determining an amount of time between a start bit and a stop bit" and "obtaining a first baud rate based on the amount of time; and setting a second baud rate for the serial port based on the first baud rate," as in claim 9. As the quoted passage shows, the examiner's assertions to the contrary are simply wrong and exist only in the mind of the examiner.

The examiner admits that *AAPA* does not teach these claimed features. Additionally, *AAPA* does not suggest the claimed features given the lack of disclosure in *AAPA* in this regard. As shown above, *Krulce* does not teach these claimed features. Given the fact that *Krulce* is devoid of disclosure in this regard and that *Krulce* is completely irrelevant to these claimed features, *Krulce* does not suggest these claimed features. Because both *AAPA* and *Krulce* do not teach or suggest all of the features of claim 9, the proposed combination of *AAPA* and *Krulce*, when considered as a whole, also does not teach or suggest all of the features of claim 9. Accordingly, the examiner failed to state a *prima facie* obviousness rejection against claim 9.

**I.E.2. The Examiner Failed to Provide a Proper Teaching, Suggestion, or Motivation to Combine the References**

Additionally, the examiner failed to state a *prima facie* obviousness rejection against claim 9 because the examiner failed to provide a proper teaching, suggestion, or motivation to combine the references. Regarding a motivation in relation to claim 9, the examiner states that:

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Krulce's baud rate setting into AAPA's method.

Therefore, it would have been obvious to combine Krulce with AAPA for the benefit of implementing a low-cost receiving device for determining of the correct baud rate between the transmitting device and the receiving device for serial communication (Krulce, col. 2, ll. 25-50).

Final Office Action dated December 6, 2006, pp. 26-27 (emphasis in original).

The examiner asserts that the reason combining *Krulce* with *AAPA* would be obvious is because the result would be a low-cost method of baud rate setting. However, the examiner's proposed reason does not actually exist because *AAPA* is concerned with the problems of serial port initialization and *Krulce* is concerned with baud rate negotiation. The two problems have nothing to do with each other. Thus, the examiner's asserted reason to combine the references does not work and does not provide any reason to combine the references. Accordingly, the examiner has not stated a proper teaching, suggestion, or motivation to combine the references to achieve the invention of claim 9.

Additionally, the examiner's perception that *Krulce* teaches the features of claim 9 not taught by *AAPA* exists only in the mind of the examiner. Thus, the examiner's asserted reason to combine the references again does not actually exist. Additionally, the fact that the similarity between *Krulce* and claim 9 only exists in the mind of the examiner proves that the examiner is using impermissible hindsight to combine the references. Accordingly, the examiner has not stated a proper teaching, suggestion, or motivation to combine the references to achieve the invention of claim 9. Therefore, the examiner has failed to state a *prima facie* obviousness rejection against claim 9.

**I.F. Claim 10**

The examiner rejected claim 10 under 35 U.S.C. 103(a) as obvious over *AAPA*, *Krulce*, and *Walter*. This rejection is respectfully traversed. In rejecting claim 10 the examiner states that:

AAPA and Krulce teach all the limitations of claim 9 as discussed above, where Krulce further teach the method comprising the utilization of a state diagram a binary search method selecting a baud rate from a set of conventional baud rates (Krulce, Fig. 3 and col. 5, ll. 27-30).

AAPA and Krulce does not teach the use of a look-up table to determine the baud rate.

Walter teaches the method comprising the use of a look-up table for determining a corresponding baud rate (col. 2, ll. 55-58 and col. 6, ll. 43-49).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Walter's look-up table into AAPA and Krulce's state diagram.

Therefore, it would have been obvious to combine Walter with AAPA and Krulce for the benefit of providing the automatic determination of baud rate for the serial data transmission (Walter, Abstract and col. 2, ll. 1-2).

Final Office Action dated December 6, 2006, pp. 27-28 (emphasis in original):

Claim 10 is as follows:

10. The method of claim 9, wherein obtaining a baud rate based on the amount of time includes performing a look-up of the baud rate in a look-up table.

As shown above, the combination of *Krulce* and *AAPA* does not teach or suggest all of the features of claim 9, from which claim 10 depends. The examiner does not assert that *Walter* teaches or suggests the corresponding features of claim 9, and *Walter* does not actually teach or suggest all of the corresponding features of claim 9. Therefore, the proposed combination of these references, considered as a whole, also does not teach or suggest all of the features of claim 10. Accordingly, the examiner failed to state a *prima facie* obviousness rejection against claim 10.

Additionally, the examiner's asserted reason to combine *Walter*, *AAPA*, and *Krulce* is not a proper teaching, suggestion, or motivation to combine the references to achieve the invention of claim 10. The examiner states that, "it would have been obvious to combine Walter with AAPA and Krulce for the benefit of providing the automatic determination of baud rate for the serial data transmission (Walter, Abstract and col. 2, ll. 1-2)." However, as shown with respect to the response to the rejection of claim 9, this benefit does not actually exist because *Krulce* does not describe conducting baud rate negotiation

through determining an amount of time between a start and stop bits, as claimed. Therefore, *Krulce* is inapplicable to claim 10 and the examiner has failed to state a proper teaching, suggestion, or motivation to combine the references. Accordingly, the examiner has failed to state a *prima facie* obviousness rejection against claim 10.

#### I.G. Claims 11-12

The examiner rejected claims 11-12 under 35 U.S.C. 103(a) as obvious over *AAPA*, *Krulce*, and *Hollingsworth*, CMSC 417 - S97 (lect 13) copyright 1997 (hereinafter "*Hollingsworth*"). This rejection is respectfully traversed. Regarding claims 11 and 12 the examiner states that:

AAPA and Krulce teach all the limitation of claim 9 as discussed above.

AAPA and Krulce does not teach the method comprising resending the break key sequence responsive to a timeout condition; and

repeating the sending, determining, and obtaining steps until a timer expires.

Hollingsworth teaches the communication between a transmitter and a receiver, wherein if the Disconnect Request (DR), send by the transmitter, is not acknowledged by the receiver, the transmitter resend the DR due to a timeout condition (page 7, Fig. (c)) and if the DR is not acknowledged after a period of time of N timeout conditions, the transmitter stops the resending of the DR (page 7, Fig. (d)).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Hollingsworth's timeout condition into AAPA and Krulce's method for the adaptive baud rate negotiation. The resulting combination of the references teaches the method further comprising the retransmission of the break key sequence if the correct baud rate is unable to be obtained when the timeout condition occurs and if the correct baud rate is unable to be obtained after the time period of N timeouts, which may result in the expiration of a timer, the attempt to obtain the correct baud rate stops.

Therefore, it would have been obvious to combine Hollingsworth with AAPA and Krulce for the benefit of proper detection if there is a failure in the attempt to obtain the proper baud rate for communication.

Final Office Action dated December 6, 2006, pp. 28-29 (emphasis in original).

Claim 11 is a representative claim of this grouping of claims. Claim 11 is as follows:

11. (Original) The method of claim 9, further comprising resending the break key sequence responsive to a timeout condition.

As shown above, the combination of *Krulce* and *AAPA* does not teach or suggest all of the features of claim 9, from which claim 11 depends. The examiner does not assert that *Hollingsworth* teaches or suggests the corresponding features of claim 9, and *Hollingsworth* does not actually teach or

suggest all of the corresponding features of claim 9. Therefore, the proposed combination of these references, considered as a whole, also does not teach or suggest all of the features of claim 11. Accordingly, the examiner failed to state a *prima facie* obviousness rejection against claims 11 and 12.

#### **I.H. Obviousness Rejections Generally**

##### **I.H.1. Use of Impermissible Hindsight Throughout All Obviousness Rejections**

The examiner failed to state a *prima facie* obviousness rejection because the examiner used impermissible hindsight when fashioning the rejections. "It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *In re Hedges*, 228 U.S.P.Q. 685, 687 (Fed. Cir. 1986). Additionally, Personal opinion cannot be substituted for what the prior art teaches because a *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993).

The plethora of rejections and the incorrectness of the rejections shows examiner must have simply picked and chosen elements from the prior art and combined those elements using Applicant's specification as a template to achieve the claimed inventions. The examiner was unable to find just one or two references, or even three references, to teach all of the features of the claims. Instead, the examiner had to find no less than six references and issue six different rejections in order to reject all the claims. In further view of the fact that *Wood* does not teach all of the features as asserted by the examiner and in further view that *Krulce* is utterly unrelated to the features of claim 9, the examiner must have picked and chose features among the references that the examiner perceived, mistakenly, as existing.

Furthermore, the examiner's errors and the examiner's failure to consider all of the teachings of Applicants' admitted prior art also show that the examiner considered the individual components of the references to the exclusion of other parts of the references necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. Therefore, the only logical conclusion to draw is that the examiner picked and chose elements from the prior art and then combined them together using the specification as a template. This action constitutes impermissible hindsight under the standards of *In re Hedges* and *In re Bell*. Accordingly, the examiner failed to state *prima facie* obviousness rejections against any of the claims.

Additionally, the requirement that the examiner use a plethora of references shows that one of ordinary skill would be unlikely to achieve the claimed inventions. The examiner's proposed rejections would require one of ordinary skill to cobble together disparate references and then further modify the



references to make up for the lack of disclosure in those references, as described above. Common sense indicates that doing so is beyond those of ordinary skill in the art. Thus, not only did the examiner use impermissible hindsight when fashioning the references, but also no motivation exists to combine the references to achieve the claimed inventions. Hence, again, the examiner failed to state *prima facie* obviousness rejections against any of the claims.

#### **I.H.2. Rebuttal to the Examiner's Response**

In response to the above facts the examiner states the following:

In regarding to applicant's arguments that the examiner use of impermissible hindsight throughout all obvious rejections and utilized a plethora of references for the plethora of rejections, as stated on page 27, 4th paragraph to page 28, 2<sup>nd</sup> paragraph.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that the examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

Final Office Action dated December 6, 2006, p. 17 (emphasis in original).

The examiner's response does not in any way rebut the facts set forth above. The examiner only states a purported law of hindsight reasoning set forth in *In re McLaughlin* and a purported law regarding using a large number of references in an obviousness rejection set forth in *In re Gorman*. However, in neither case does the examiner provide *any* rationale on how the examiner has not failed to meet the requirements of these cases.

In the case at hand, Applicants have established that the examiner did not take into account *only* knowledge which was within the level of ordinary skill at the time the claimed invention was made, and *did* include knowledge gleaned only from the applicant's disclosure. Therefore, Applicants have established that the examiner used impermissible hindsight. The examiner's response does not assert any facts or rationale to rebut this fact.

Additionally, *In re Gorman* provides that, "reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention." However, Applicants

have established the "with more" portion of this test in that Applicants do not rely solely on the number of references used. Applicants also point out the erroneous nature of the rejections, thereby corroborating the conclusion of impermissible hindsight. The examiner's response does not assert any facts or rationale to rebut this fact.

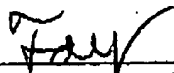
Accordingly, the examiner did use impermissible hindsight when combining the references. Accordingly, the examiner failed to state a *prima facie* obviousness rejection against any of the claims.

## II. Conclusion

The subject application is patentable over the cited references and should now be in condition for allowance. The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: March 6, 2007

Respectfully submitted,



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